Lecture ON ATROPHY OF THE STOMACH.

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(*Continued from p. 4.*)

As is the case with a similar condition of other organs, gastric atrophy is especially liable to affect the male sex. All of the before-mentioned cases in which the existence of the disease was proved by post-mortem examination were men; and when we admit into the list those in which the disease was only diagnosed we have but one female to six males. The earliest age at which death occurred was forty-five; six were between forty-five and sixty, and one above sixty years of age. No cause could be assigned for the disease, excepting that three stated they had been previously much depressed in spirits. All the fatal cases terminated within eighteen months.

The first symptoms of atrophy of the stomach show themselves very gradually; so much so that most of the subjects of the disease are unable to state exactly when the earliest signs of ill-health attracted their attention. A slight loss of strength, and a failure of appetite as regards animal food, especially when the meat is underdone, are usually the earliest indications. At this time flatulence is the only sign of indigestion, with the exception, perhaps, of slight constipation. At a later period the appearance of the patient is very striking. The face is of a pale-yellow colour, the lips and throat are intensely white, and he looks as though he were suffering from chronic Bright's disease or some malignant tumour. With the exception of Case 3, there was in none of the instances any marked loss of weight. Most of them were stout, one or two unusually so. The appetite for animal food is now exceedingly bad, the thought of it often exciting a feeling of loathing; but nourishment of a starchy nature is readily taken. Some are still able to eat fish or chicken; others object even to these, but can swallow soups. Occasional vomiting comes on; others suffer from nausea. Flatulence is almost always a subject of complaint, and attacks of diarrhœa replace the former constipation. The strength is greatly reduced, and the loss of memory and incapability for mental exertion force themselves on the sufferer's attention. The least exertion induces palpitation and dyspnœa, which are often so distressing that the patient is forced to keep in the recumbent position. The pulse is small and thready, but not necessarily quickened. The progress of the case is generally slow, and as time goes on the feebleness and anæmia increase from week to week. Some complain of severe pains of the limbs on the slightest exertion, and the pains are stated to be as if they had undergone an immoderate amount of muscular effort. As death approaches, dropsy of the limbs sometimes shows itself, or effusion may take place into one or both pleuræ. Some complain of tenderness over the epigastrium; others suffer from vomiting or uncontrollable diarrhœa; whilst others become delirious, and sink gradually into a state of coma.

There are no physical signs peculiar to the disease. On account of the anæmia you commonly find systolic murmurs over the heart, carotid arteries, and jugular veins. The stomach presents no evidence of tumour or dilatation, and there is no enlargement either of the lymphatic glands or spleen. The urine is of low specific gravity, contains only a very small amount of urea, but neither albumen nor sugar is present in it. The blood is thin and watery, and under the microscope shows no increase, but rather a diminution, in the numbers of the white corpuscles. Both the white and red cells appear to be normal in size and shape.

I have already pointed out that it was in the search for the cause of "idiopathic anæmia" that Dr. Addison lighted upon the disease of the supra-renal capsules now distinguished by his name. It has been conjectured that in this malady there may be some atrophy of the stomach, as many of its most prominent symptoms point to gastric disorder. A young man was admitted under my care into Fitzgerald ward two years ago with the discolouration of the skin and other symptoms of "morbus Addisonii." After death, the correctness of the diagnosis as to the disease of the supra-renal capsules was confirmed, but the most careful microscopical examination failed to show any atrophy of the peptic glands. A woman about forty-five years of age was last year under my care in Davis's ward. In addition to the discolouration of the skin, she had frequent vomiting, great loss of appetite, and extreme pain and tenderness of the epigastrium. The tenderness was so excessive, that it formed the chief subject of complaint. Five years previously she had, according to her own account, been in a very similar state, but had quite recovered her health in the Victoria-park Hospital. Now, here was a case where severe pain, extreme tenderness, and frequent vomiting pointed to gastric disorder, whilst the duration of the symptoms was so long, that anatomical changes in the stomach had ample time to pass on to the latest stages. Yet, after death, there were only the appearances ordinarily presented by chronic catarrh, and no atrophy of the secreting structures could be discovered excepting in the pyloric region. It is, then, sufficiently plain that although many of the symptoms of Addison's disease and of gastric atrophy may present points of similarity, yet these maladies are essentially different in their nature.

2. *Gastric atrophy occurring as an accompaniment of cancer in various organs.*—Whilst engaged in investigating the condition of different organs in the bodies of those who had died of cancer, I was struck with the frequency with which atrophy of the gastric glands presented itself. This was more especially in cases of cancer of the mamma, although the anatomical changes in the stomach, as you will shortly see, were not confined to those who had perished of malignant disease of this organ. In the earliest stage of the disease the solitary glands were enlarged and filled with cells and nuclei; the gastric tubes, and sometimes the muscular fibres, were displaced by these bodies, which were also scattered everywhere through the mucous membrane. The tubes adhered firmly to each other, but still contained normal gastric cells. At a later stage the solitary glands appeared empty in the centre, but were surrounded by thick layers of nuclei; the tubes could be no longer traced throughout their whole extent, but could be recognised only as bulbs filled with fatty cells, or as lines of cells; whilst the whole tissue was obscured by fatty and granular matters. In the latest stage the solitary glands had disappeared, and the secreting tubes were replaced by fibres, so that no vestige of the original structure remained. In some of the other cases the solitary glands were not so much affected, but the tubes were much thickened and firmly adherent to each other, as in the earlier stages of idiopathic anæmia. The mucous membrane of the stomach was usually much wasted, but it was found to be chemically altered in some of the cases examined. In one, when dried and digested in ether, the tissue lost as much as 32·8 per cent.; whilst the average amount removed by ether in five cases, where death had occurred from other causes, independent of cancer, was only 12·6 per cent. In another of the cancer cases, although the microscope did not detect any anatomical changes, the amount of fatty matter contained in the mucous membrane was upwards of 19 per cent. As might be expected, the amount of pepsin present in the gland structure was much lessened where atrophy was present. In one case, ten grains of albumen were digested for eleven hours in an acidulated infusion of the stomach, and only six-tenths of a grain were dissolved; whereas the average amount of albumen dissolved in similar experiments conducted with the stomachs of persons who had died of other diseases amounted to four grains. In another cancer case, although the microscope detected no anatomical changes, the albumen had gained by imbibition one grain in weight, and was merely softened at the edges.

It must, however, be borne in mind that the atrophy of the stomach does not occur in every case of cancer of the breast: in four out of fifteen, no anatomical changes could be discovered; in three of these the mucous membrane was very thin, but in two of them, in which artificial digestion was tried, the usual amount of coagulated albumen was dissolved.

You will doubtless remark that, although in this, as in the preceding class of cases, the secreting structure was found to be in a state of atrophy, yet that the solitary glands were more generally enlarged where cancer of the breast was present than in "idiopathic anæmia." This change in the solitary glands is not necessarily connected with atrophy, but may be present, more especially in the pyloric region, in any case of chronic inflammation of the gastric mucous membrane. In one case of cancer of the breast, these bodies were so generally enlarged that the cardiac end of the stomach was everywhere sprinkled over with small white spots about the size of a pin's head, that looked, but did not feel, as if raised above the surface.

But an interesting question will here no doubt arrest your attention. What is the relation between the gastric atrophy and the malignant disease of the breast? Is the tumour induced by the imperfect state of the digestive organs? The hypothesis might suggest itself to your minds that the atrophy of the stomach may so alter the digestive process that an imperfectly elaborated albumen might be absorbed, and thus give rise to an abnormal form of the fibrine or gelatine that so largely enters into the chemical constitution of malignant tumours. But such an idea seems to be contradicted by the fact that in "idiopathic anæmia," where there is such a decided decrease in the ordinary amount of the albuminous constituents of the blood, we meet with no malignant tumour in any organ of the body; and, again, that no gastric atrophy can be found in the majority of the cases of cancer affecting other organs than the breast. To make this more plain I have arranged the number of cases of cancer of various organs in which I examined the stomach microscopically in a tabular form.

	Stomach atrophied.	Total number of cases.
Cancer of breast	11 ...	15
„ of stomach	5 ...	5
„ of uterus	3 ...	24
„ of tongue	1 ...	3
„ of rectum	1 ...	2
„ of groin, penis, and bladder	0 ...	3
„ of glands, bones, skin, and lungs	0 ...	8
	21 ...	60

We can scarcely use the cases of cancer of the stomach for the purpose of drawing any conclusion as to the probability of the glandular atrophy tending to the production of malignant tumour, because in all cancers traces of the diseased action extend far beyond the apparent limits of the new growth. But I think I have observed that the nature of the microscopical changes varies with the characters of the tumour. That where the latter is scirrhus, the atrophy of the gastric gland-structure is much more decided, and accompanied by an increased fibrous formation between and below the tubes; whilst this is not the case, at any rate to the same extent, in the softer kinds of malignant growths. You will remember that I pointed out to you, when speaking of cancer of the stomach, that the coexisting atrophy of the gland-structures was a point of considerable practical importance, as it does not occur in simple ulcer, and that to its presence we must attribute much of the loss of appetite and flesh and the rapid anæmia that accompany malignant disease of this organ.

But the above table shows that the occurrence of atrophy of the stomach in cancer of the breast is not a mere accident, for eleven out of fifteen presented it in a greater or less degree, whilst it was found in only three out of twenty-four instances of cancer of the uterus, and in none of the cases where the malignant disease affected the glands, bones, skin, or lungs. I have seen it most developed where the tumour of the mamma was of a hard fibrous character, where the disease was of slow growth, and where eventually small nodules formed in the skin. If we admit that these nodules arise from an affection of the lymphatics, then the coexisting enlargement of the solitary glands of the stomach of a *non-cancerous* character is interesting, as pointing to the probability of an early and a general morbid condition of the lymphatic structures. The relation between gastric atrophy and cancer of the breast I believe to be merely this: that scirrhus of the mamma generally takes place in persons in whom other organs are simultaneously undergoing fibroid degeneration; and I think, in all probability, it will be found that the atrophy is so much more common in cancer of the breast and pylorus, because these organs are more generally than others the seat of the more fibrous forms of malignant disease. Why the stomach should be more affected than the liver or kidneys I am unable to explain; but you cannot fail to be struck with the common occurrence of emphysema of the lungs, thickening of the valves of the heart, and other general fibroid changes in persons who have perished from scirrhus of the breast or other organs.

You may fairly ask, why should scirrhus be accompanied by degenerative changes in other organs, when they are absent in the other forms of malignant growths? Now, you must remember that fibroid degenerations produce anatomical changes perceptible by the microscope, but that there may be—indeed, there are—degenerations of tissue which require chemical and not optical means of investigation for their detection. In some of the cases of cancer of the uterus, for example, although the mucous membrane of the stomach was not lessened in bulk, the tubes seemed bathed in an albuminous fluid, in others the membrane cut as if it were composed of gelatine, and in only a few instances did spirit or chromic acid harden the membrane, as is the case where death has occurred from disease of a non-malignant character.

The chemical composition appeared to vary; in one case the softness seemed to arise from fatty degeneration, as ether removed 33·5 per cent.; in another 50 per cent. was composed of albumen; in a third, along with a small proportion of fat and albumen, there was a great excess of gelatine. In two cases of cancer of the uterus, fatty degeneration of the mucous membrane of the intestines was present; in some the intestinal tubes were diseased, and only the remains of their closed and bulbous ends could be discovered. Taking the whole cases of cancer together, in eighteen out of nineteen instances in which the gastric tubes were normal, morbid changes of some kind were detected in the intestinal canal. Then, again, in a large proportion of the cases where death had resulted from cancer of the uterus, the muscular structure of the heart presented evidences of disease. The fibres were very soft, their cross-markings faint, in some specimens entirely lost, and the structure was loaded either with fat-globules or granular matters. In many cases the change seemed to me to differ from the ordinary fatty degeneration, for I was able to dissolve by boiling alcohol a fatty material that yielded lime on incineration. Now, I am quite prepared to admit that many of these chemical changes in the tissues at a distance from a malignant tumour may be the result of the local disease. The growth of many of the softer forms of cancer is, as you know, extremely rapid; but the disintegration of the structure is equally so. You may therefore readily imagine that fatty salts of lime and other products of disintegration may be reabsorbed from the portions undergoing involution, and, being incapable of elimination, may be deposited in the structures. What I wish, however, to point out to any of you who may direct your inquiries to this most important and interesting part of pathology is, the necessity for you to look away from the organ affected and endeavour to ascertain the condition of the other structures of the body. All of you know that of late years the most laborious investigations have been pursued into the minute structure of new growths. But, in a practical point of view, we are but little wiser than our predecessors, for we are as powerless as they either to prevent a cancer or to ward off its ill effects upon the constitution. If, however, future researches should prove, as I suspect they will, that certain materials are apt to be produced in the course of degenerative actions as modifications of the normal products of tissue changes, and that these materials, in virtue of their physical or chemical properties, are capable of exciting the abnormal growths we term cancers, then we should have a better chance of ascertaining what circumstances are most apt to give rise to the development of malignant disease. Or if we should discover that the "cancerous cachexia" is in many cases dependent on the absorption of disintegrated materials incapable of elimination from the body, we should have a definite aim in view, to which our experiments and observations might be usefully directed.

I have had fewer opportunities of watching the course

and symptoms of atrophy of the stomach in this class of cases, because most of them come under the care of the surgeon; but such as I have seen were very similar to those before described as "idiopathic anæmia."

(To be concluded.)

VENOUS CIRCULATION IN RELATION TO SOME OF THE DISEASES WHICH AFFECT THE LOWER LIMB.

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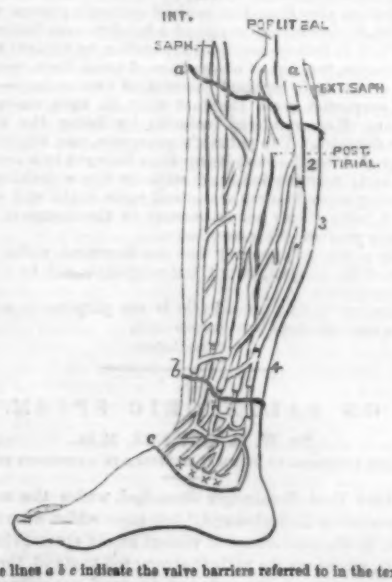
III.—DRY GANGRENE.

(Continued from vol. i., page 873.)

IN the observations I have already made with regard to the checks which the valves, under certain conditions, everywhere make against the possibility of stream reflux, I have designedly omitted more than a passing allusion to a certain special arrangement of the valves at definite parts of the limb by which they are, in cases of need, able to supply efficient barriers to all regurgitation from the veins above to those below. Elsewhere in the limb a single valve will protect the stream against reflux, but only in its own vein; for the blood will notwithstanding find its way for a certain distance below it through collateral vein channels; but by the combinations mentioned, with one exception, presently to be referred to, the valves are so disposed as together to form a series of horizontal barriers in the limb, across which no fluid can be made to pass to the parts below. The planes

FIG. 4.



The lines *a b c* indicate the valve barriers referred to in the text.

represented by these valvular barriers are not even, for one valve dips below, whilst another rises above, the common level, as seen in Fig. 4, line *b*; yet their combined power of arresting reflux below that level is singularly complete. Moreover, as I have already said, these planes are in striking correspondence with the several boundaries which, in cases of dry gangrene occurring in the lower limb, separate the dead from the living portions, and are very nearly represented by the lines of demarcation by which these boundaries are first indicated in the skin.

These observations were not in any way anticipated. They were made in the course of dissections of veins in limbs that had been injected for other purposes. In the first that was made the saphenæ were injected about the middle of the leg. The injection was found to be arrested entirely at about the junction of the lower with its middle third. Not a particle of the wax was found below a valve barrier at the situation represented by line *b*, Fig. 4. For the second, the injection was made in the saphena two inches and a half above the knee-joint. The fluid was arrested centrifugally by a series of valves below the knee-joint, on a plane represented by line *a*. For the third, the point of injection was just above the ankle joint. The barrier in this experiment was situated about two inches below the ankle-joint in front, but it was incomplete, as far as valves were concerned, in the sole. Nevertheless it was everywhere fairly obstructive to regurgitant flow, as will presently be seen.

In the first experiment the injection ran backwards to the barrier *b*, but in doing so it passed several valves (1, 2, 3), through the diversion of the stream into other veins; and, of course, it ran into all those above or centripetal to the point of injection. Still in passing to the valve 4 in the saphena, which contributed to form the barrier, the injection must, as will be seen by the diagram, have filled the intervalvular vein-segment above valve 4 before it filled the segments above the valves 2 and 3; so that, should anything occur requiring the closure of the barrier *b*—such, for instance, as general blood regurgitation,—its valves would close, but neither in consequence of the pressure of the superjacent blood columns, nor for their sustentation: for in either of these cases they would have closed in order of succession from above downwards. On the contrary, the valves 1, 2, and 3 would not close at all, but remain open for the passage of the currents in obedience to the force which these would bring to bear upon their cusps. The closure of the barrier valves, under such circumstances, is due entirely and directly to the same cause as that which is accountable for the occurrence of gangrene—namely, the suspension of the forces which propel the vein currents; for on their restoration their cusps would resume their normal functions. And this view is in accordance with, and supports, the theory of valvular action which has been advanced—viz., that it is designed for the dispersion or distribution of the blood, and is not in a sense obstructive, as it would be if it answered the alleged purpose of sustaining its columnar weight.

Of barrier *d* I am not informed beyond the results of a single experiment. These were, however, clearly in favour of the view that, at the distance of from two to three inches below the knee-joint, a combination of valves exists adequate to its formation, and that they are arranged somewhat irregularly in an oblique line from above downwards and backwards.

Barrier *c*, according to the injections made to define it, is the one to which I have alluded as being incomplete, so far as its valvular elements are concerned. In tracing it the external saphena was injected backwards with blue wax above the ankle-joint, below barrier *b*. The fluid stopped at a valve on a level with the tip of the external malleolus, by which it was diverted into the peroneal and post-tibial veins, in which, in its centripetal course, it overtook some red injection that had been previously forced into them. It did not run backwards below the level of the joint, or into the plexuses in front of it. In another limb the injection was thrown into the post-tibial vein close to the joint, when it was found to run into a vein, which connected it with the internal saphena, thence into the plexuses in front of the joint, and from these into a series of veins across the foot. In these veins it was stopped by valves arranged in the form of a line represented by × × × × above *c*.

Although there is usually an absence of valves in the plantar veins, the injection did not run freely through them in the direction of the digits, owing apparently to the hindrances occasioned by the fibres of the muscular and other structures through which many of these veins have to thread their way. Thus the barrier *c* is not valvularly so complete as the other barriers; still it is sufficiently obstructive in its action as obviously to interpose a considerable amount of obstacle to the general current in the event of its becoming regurgitant; but this happens only under rare conditions—viz., those in which the reflux extends above the line of the ankle-joint, but not beyond barrier *b*. Hence it is that gangrene, although it has been known to do so, rarely fixes its limits at that particular situation.

In the limbs from which these results were obtained the veins, with the exception of the trunks and primary branches, differed widely in number and distribution. No two maps were alike, and this seems to be in accordance with a law in respect to veins generally by which diversity in detail is made subservient to uniformity of purpose; this diversity being determined very much in every case by special myological development.

The line of separation in gangrene affecting the toes differs, but is usually met with on the distal (in relation to the trunk) side of the articulations, most usually the tarso-metatarsal, or metatarso-phalangeal joints, for which a reason similar to that which has been offered for analogous lines in other parts of the limb can be supplied by reference to the distribution of the digital veins, as illustrated in Fig. 3.

It is not to my purpose here to consider the primary causes of the disease to which the foregoing remarks are intended to apply. Suffice it to say that the immediate cause lies in the reversal of the relation of the forces ordinarily concerned in the circulation of the blood, to the disadvantage especially of those which return it to the heart. In other words, the propelling powers are so far reduced as to be unable to overcome those by which they are opposed, the chief of these being the vertical or columnar weight of the blood. Following out the consequences of such a change physiologically, the first would obviously be a suspension of the current at the part most distant from the central organ;—that on which the results of the contending forces would fall, or on which they would converge—namely, the portion of the veno-capillary system situated at the extremity of the affected limb; and blood stasis or stagnation, once established here, would gradually extend upwards in the limb in ratio with the severity of the direct cause in each case, until it reached a point or level at which the blood would again be brought within the sphere of the circulating forces in a state of normal, albeit feeble, activity—a level in advance of that at which these forces are in a state of counterpoise to each other. It might be confidently assumed that a point of equilibrium would, under such circumstances, exist; above which the movement of the blood-currents would not only not have entirely ceased, but, under the influence of favouring conditions, would resume their wonted energy along their natural courses.

And such conditions would be met with—first, in sufficient proximity to the heart; and, secondly, in some ever-available provision at this part by which the blood columns in the limb above would be so completely isolated from those below as to be enabled to receive the full benefit of the forces centripetally directed upon them.

The former of these conditions is, of course, supplied by the forces of the heart. The latter can only be realised by the interposition of one such valve barrier as those which have been described; the cusps of which would close, as I have already said, by the loss of the current force which naturally keeps them open. The final results would obviously be (a) the death of the portion of the limb below such a barrier, and (b) the full restoration of vitality in that above.

To my own mind, at least, it is obvious that without the interposition of such an agency as this in the still living part of a limb affected with dry gangrene, the phenomena observable in such cases could not be developed.

In returning for a moment to the function of the valves, as I have already endeavoured to present it, the closure of their cusps is clearly shown by this reasoning to be an act only called into exercise by an extreme condition or reversal of the circulating powers, that cannot exist in a state of the limb bordering upon its death or the death of a portion of it. It may, however, occur partially, or in certain veins of a limb, without this result. I met with it on one occasion in a limb I dissected in the Shoreditch workhouse, throughout the post-tibial and peroneal veins. The whole of the blood in them was clotted and beautifully lamellated, and the valve cusps lying, some entirely, others more or less entirely, closed throughout. A diagram of the embolic veins is given in my work on "Varicose Disease" (Fig. 3, p. 4). In this case severe œdema existed to the time of death. How long the state of the blood and valves had existed was not known. The thrombi had, however, evidently been of gradual formation. The arterial coats were extensively diseased.

It is interesting to note that in these spontaneous amputations Nature seems to have anticipated the latest suggestions in surgery, in that she generally selects the joints for the severance of the skeletal elements of a limb, and covers in the extremities by skin taken from below them by the circular flap operation.

An exception, however, to this rule is met with when the gangrenous process in the soft parts stops, as it often does, at the lower portion of the leg; for here the bone becomes an obstacle to its entire separation, which Nature does not appear able readily to surmount. Consequently the bones are separated at the ankle joint, and a conical stump results, from which the ends of the bones protrude. In such cases the earlier a sufficient portion of the bone is removed, to allow of a skin-covered stump, the better in every respect.

The points of practical interest arising out of the foregoing considerations are several, and by no means, perhaps, without interest or import.

These barrier planes give to the surgeon landmarks, as it were, for amputating, justifying very nearly the rules at present generally acted upon. If performed at the several situations in which these appear to exist—below the knee-joint, in the lower part of the leg, and in the neighbourhood of the ankle or phalangeal joints,—it is clear that not only would venous hæmorrhage be checked or prevented, but the tissues of the flaps thus made would be found to have special endowments for the revival and maintenance of their vital powers. Why do portions of flaps die? Seemingly because, not being cut according to the principles indicated by the foregoing facts and considerations, they are excluded from the sphere within which alone the maintenance of vitality is possible. They also encourage early amputation in these cases—i. e., as soon after the formation of a line of demarcation as the patient's strength will justify; for it is very clear that, as far as the limb is concerned, the powers of the circulation have been restored and adjusted so as to secure the continuance of vitality in the parts above, and it is obvious also that the general systemic powers would, under such circumstances, stand a brief process better than that which is indispensable to separation by natural means. The arteries, too, by an observance of these lines, would be sealed protectively against the risk of hæmorrhage—a risk justly suspected from the fact that in such cases their coats are often rendered inelastic by being the seat of earthy deposits. The patient's prospects, too, might often be improved by the case being thus brought to a comparatively early termination, and without the enfeebling and disgusting consequences attendant upon death and decomposition taking their natural course in the tissues of a considerable portion of his own body.

(It is a matter of regret that the diagrams, owing to the nature of the subject, afford but very little aid in the way of illustration.)

In the concluding remarks it is my purpose to consider œdema and effusions into serous sacs.

(To be concluded.)

ON SALTATORIC SPASM.

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In 1859 Prof. Bamberger described, under the name of "Salatorischer Reflexkrampf," two cases which were characterised by the occurrence of violent clonic spasm, chiefly in the legs, whenever the patient attempted to stand, the spasm ceasing as soon as the attempt to stand was relinquished. The effect of the spasm was to produce involuntary springing or jumping movements. Since 1859 three other cases have been described in which spasm of the same character was present, two by Dr. Paul Guttmann (in 1867 and 1876), and one by Dr. Anton Frey (in 1875), who added a *résumé* of the symptoms present in the four cases which had then been described (*Arch. für Psychiatrie*, Bd. v., p. 249).

Two well-marked instances of the affection have come under my own notice. The first of these was a patient in the Hospital for Paralysis and Epilepsy, under the care of Dr. Radcliffe, who kindly permits me to publish my notes

of the case from the hospital case-book. The second case occurred in one of my out-patients at the same hospital whilst an inmate of the country branch at Finchley.

CASE 1. *Severe clonic spasm in legs and back on standing and, when at worst, also on sitting, in a slightly hysterical girl; movements of limbs unimpeded; other similar attacks.*—Louisa B——, aged twenty-one, admitted on the 12th of October, 1871. The only family history of nervous disease was that the girl's father was very intemperate, and had been three times confined in a lunatic asylum on account of persistent alcoholic delirium. The patient's previous health had been good, with the exception of two attacks such as she then suffered from. She had never had chorea or convulsive seizures, but, when a child, before eight years of age, she was liable to sudden attacks of giddiness, in which she would fall suddenly in the street, and have to be taken home. She had at times experienced the globus hystericus, and had on one or two occasions had an attack of laughing and crying. No history could be obtained of more severe hysterical symptoms. She commenced to menstruate at seventeen, and had done so with perfect regularity. At the same age she had an attack of "shaking in the legs on standing," which commenced gradually, continued for four months, and then ceased gradually. Its onset was preceded for a fortnight by a sense of weight in the legs. A year and a half later she had a similar attack, more severe than the first, lasting two months. The movements were violent, occurred only when standing, and ceased when she sat down. They were more severe in the right than in the left leg. The movement in these attacks was never so severe as to prevent her altogether from standing. No exciting cause could be assigned for either of these attacks, but she was at all times liable to severe emotional disturbance consequent on her father's drunken violence.

The attack for which she was admitted in 1871 commenced two months previously. A fortnight after a great alarm of the character just mentioned, she experienced a sensation of weight in the legs, and two or three days later the spasm on standing commenced, and it gradually increased in severity until admission.

The patient was an intelligent, well-developed girl, having the aspect of good health. When sitting still nothing wrong could be observed. Her arms and legs were raised and moved steadily and well, and there was no obvious weakness. Voluntary resistance to passive movement was strong. There was no involuntary rigidity. Placing her hands on the seat of the chair on which she was sitting, she could raise herself by them quite steadily. She knelt without the least disturbance. As soon as she attempted to stand and threw the weight of the body upon the feet, both legs became the seat of severe clonic spasm, synchronous in the two legs, jerking the body, arms, and head violently up and down. The heels were raised from the floor several inches, and came down on it with force, instantly to rise again. The spasm appeared, as far as could be judged, to involve all the muscles of the legs and also those of the lower part of the back, since the trunk was jerked backwards at each spasm; but there was none in the muscles of the upper part of the trunk, the arms, or the head. It recurred rapidly; its frequency was not noted, but certainly two or three spasms occurred each second, the body springing upwards the instant the heels struck the ground on the descent from the previous bound. With the assistance of a nurse she was able to walk a few steps, the spasm continuing violent, and the right leg every few seconds giving way for a moment. Without assistance she could not even stand. The movements were so severe, that in a few seconds she was breathless and exhausted. They continued as long as she attempted to stand, and ceased instantly when she sat down, and she could then move the legs steadily. When lying, firm pressure against the soles of the feet caused slight clonic spasm, but no violent muscular contractions. No pain in the muscles accompanied the spasm, but it caused pain in the lumbar spine. She complained, however, of a continual dragging sense of weight in the legs. The arms were free from all spasm whilst the legs were jerking, but she described occasional sudden attacks of slight tremor in the arms, independently of any spasm in the legs. These were not, however, witnessed, and it was doubtful whether they occurred spontaneously or were excited by movement of the arms. Ordinarily, movement of the arms caused no tremor. The saltatoric spasm presented no variation in intensity at different times of the day, but was rendered more severe by emotional excitement.

A fortnight later, the spasm continuing, she complained of much pain in the back on movement and on sitting up, felt especially at the top and bottom of the back, and relieved by the recumbent posture. There was considerable tenderness to pressure in the lower cervical and lower dorsal regions. The recumbent posture was, therefore, maintained for several days, but it did not affect the movements, which became more severe, so as to prevent her from standing even with assistance, almost throwing her down, in spite of a nurse's support, when she attempted to stand. Less support seemed afforded by the right leg than by the left, so that there was an evident tendency to fall to the right. The spasm spread also to the muscles of the upper part of the back and neck, so that the head was jerked backwards. Soon after the commencement of this pain in the back, it was found that the spasm came on in the back on sitting or kneeling, as well as on standing. There was still, however, no spasm in the arms. It was now noticed that there was slight jerking of the right leg when it was moved in bed, although it was still moved freely, and passive motion could be opposed with considerable force. Various remedies had been tried, but without effect on the spasm in the legs. Blistering to the spine, however, lessened the spinal pain, and with it the spasm in the head and back on sitting ceased. The saltatoric spasm continued without diminution, and she left the hospital in February, 1872, in nearly the same condition as when she entered it, the slight spasm with all movements of the right leg continuing.

She was not seen again for two months, and was then quite well. The history which was given of her recovery was that the tremor on moving the right leg continued for a month after her return home, and then one day ceased suddenly. She was surprised at its sudden cessation, and was afraid to move for fear of bringing it back. The spasm on standing continued for three weeks more, and one morning she found there was less shaking, so that she could just manage to stand, and then, during the course of half an hour, the shaking became less and less, until it ceased. When seen there had been no return. There was a little tremor on standing, but no spasm such as had existed before. She had taken hypophosphite of soda and cod-liver oil, but had been dosed by her mother with alcohol. She had taken considerable quantities of stout and rum and milk. The effect of this had apparently been to make her sleep very soundly, and on the day or two before the cessation of the movements she had been very drowsy all day, falling asleep, for instance, at meal times, and even at the breakfast table. I could not ascertain whether this was to be regarded as the effect of the alcohol or as the evidence of a peculiar state of the nervous system.

Six months after her recovery she again complained of pain in the head, and a sensation of heaviness in the limbs, soon followed by a return of the spasmodic movements on standing, and she passed through another severe attack, in all respects similar to that just described, except that the movements never spread to the head. The attack lasted about seven months, and ended gradually. One day she found the plunging on trying to stand a little less severe. Next day, on trying again, she fell, but on a second attempt she succeeded in standing, although unsteadily from the spasm. Each succeeding day she improved, although for several days there was a little striking of the feet against the ground. In about a week she could walk fairly well, and rapidly regained strength. From that time to the present (1877), she has had no fresh attack. The only nerve-disturbance from which she suffers is an occasional attack of slight general tremor coming on spontaneously, lasting for a quarter of an hour, and then ceasing. The tremor seems to her to begin in the chest, and spread thence to the arms and legs.

CASE 2. *Violent clonic spasm in legs on standing, with slight weakness of right leg; onset with an epileptoid seizure and temporary loss of sight; the spasm ceasing after two days.*—Annie L——, aged ten years, had suffered from "fits" for twelve months. No family history of nerve-disturbance could be obtained. The first fit occurred soon after a fright. In the attacks she fell suddenly, and lay quiet and apparently

unconscious, but was quickly brought round by a douche. Under treatment in the hospital (where she was under the care of Dr. Radcliffe) the attacks ceased. A month after the cessation of the attacks, she was admitted to the country branch under my care. She appeared quite well for a week, and then suddenly had an epileptoid seizure, of which the following account was given:—During the evening she had been noticed to start occasionally while standing. At half-past seven she was observed suddenly to be falling in a fit. She was caught by the nurse, who was close to her. Her arms and legs were stretched out, rigid, and quite steady; her face was red; she seemed quite unconscious; her eyes were closed. She was placed on the floor, and lay there for a quarter of an hour, when she was found to be less stiff, and some signs of returning consciousness were noticed. Presently she seemed conscious, but was still somewhat rigid; the rigidity gradually passed away. She complained of a severe pain between the shoulders and down the back. She was then raised into a standing posture, but as soon as the soles of her feet touched the ground violent jumping movements occurred, so severe as to throw her down. When placed on a chair she was still. A little general tremor was noticed, but there was no jerking. As she recovered consciousness she rubbed her eyes, and said she could not see, and appeared for half an hour to be quite blind. She then went to sleep. Slept pretty well all night, and awoke in the morning able to see as usual. On trying to stand the same jerking occurred, though rather less than on the previous evening. During the morning the spasm increased in severity. I saw her in the afternoon. There was then considerable rigidity of the legs, passive movement being opposed at all the joints. Sensation seemed a little impaired, but it was not easy to judge accurately. She felt a gentle touch on either leg, but said she "did not feel it well." A pinch was felt, but not acutely. There was certainly no hyperæsthesia. While sitting, her legs were perfectly still. On attempting to stand, as soon as the weight of the body was thrown on to the legs, the legs were the seat of violent clonic spasm, simultaneous in all the muscles affected and in the two legs, which jerked the whole body and arms up and down. It was not easy, so rapid and forcible were the movements, to say what muscles were involved. Certainly those below the knee were not. The feet were kept flat on the ground, and the motion was at the hip and knee-joints, especially the former. The muscles of the back seemed also to be involved. When she sat down, all the spasm at once ceased. No "tendon reflex" could be produced by putting the gastrocnemius on the stretch in the way which excites it so readily in lateral sclerosis of the cord. When lying on her back she could raise the left leg slowly from the couch without any unsteadiness, but when doing so there was a little jerking in the right leg. The right leg was raised with more difficulty than the left; it jerked a good deal in all parts. On supporting the thighs, extension of the knee-joint still caused some jerking of the right leg. She was unable to extend the toes of the right foot, but could move those of the left quite readily.

Bromide of potassium and tincture of belladonna were ordered and sponging of the spine with hot water. Little immediate relief, however, followed. The next day her condition was nearly the same. In the evening she was placed in a hot bath, wrapped up in blankets, and made to sweat. She went to sleep, and in the morning woke up perfectly well. She could move the right leg steadily and well, and could stand without the slightest jerking. There was no relapse.

Since no account of saltatoric spasm has, I believe, yet appeared in English, it may be interesting to give a brief outline of the five cases which have been recorded in Germany. The first two cases were recorded by Bamberger.[1]

CASE 1 was that of a young man, aged nineteen, in whom the affection appeared during convalescence from an attack of pneumonia, he having previously been apparently free from nervous disturbance. One day, on attempting to stand, the moment the feet touched the ground the muscles of the legs passed into a state of rigidity, accompanied by violent shock-like concussions, the body being thrown upwards whenever the feet touched the ground with such force that, if not held, he would have been thrown down. As soon as he sat down the spasm at once ceased. A feeling of discomfort, but no pain, accompanied the spasm. If, when lying, the feet were pressed against the foot-board of the bed, there were the same tonic rigidity and clonic spasms as in standing, though less intense. Momentary tickling the sole caused the slow development, during two or three minutes, of contraction of the muscles of the calf, leg, and ultimately of the arm, and, at a later period, of the other leg also. When lying all movements of the legs would be performed well. Sensibility was normal. There was no tenderness or other abnormality of the spine. The cerebral functions were undisturbed. Two days later there was some apparently spontaneous spasm in the face, drawing outwards the angles of the mouth, and very strong action of the heart. Ten days later, there was marked dyspnœa, followed in a day or two by continuous quick alternation of contraction and dilatation in both pupils. The patient complained of spontaneous tremor in the right leg, and the reflex excitability had increased, so that the muscular contractions could be elicited by tickling the leg as well as the sole. After the dyspnœa had been intense for several days it lessened under the influence of morphia, the reflex contractions and spasm were slighter, and then, on attempting to stand, it was found that the reflex spasm had entirely ceased. A few weeks afterwards he passed through a mild attack of typhus, and recovered without any return of the affection, the duration of which had been just eighteen days.

CASE 2.—The patient was a cook, aged thirty, suffering for some time from the symptoms of gastric ulcer. After the symptoms improved, she complained of great exhaustion and that she could not stand. On attempting to do so, the same phenomena occurred as have been already described: the body was thrown upwards with a violent movement whenever the soles of the feet touched the ground. The muscles of the trunk and head were involved, as well as those of the legs. On lying down these clonic spasms ceased, but for a little time there was some tetanic rigidity of the whole body, with slight tremor of some muscles; in a few minutes this had passed away, and then nothing wrong could be discovered. Tickling the soles of the feet produced no movements. On pressing the soles of the feet against the foot-board of the bed, there were slight movements, especially in the arms. The eighth, ninth, and tenth dorsal vertebræ were tender, but pressure on them excited no contractions. The affection increased until, even on moving in bed, opisthotonos occurred, and the arms became spasmodically contracted. Now and then there were spontaneous spasms in the legs. Soon, however, improvement occurred; in a fortnight she could sit up in bed as before; but this state remained stationary for a long time—nine months. Then suddenly there set in a condition of general rigidity, which lasted several days and ceased, and after its cessation the power of walking suddenly returned. Several months afterwards she had another attack; symptoms of tetanus were succeeded by a sleepy state, which lasted for two days, followed by concussions, on an attempt to stand, similar to but less severe than those of the first attack.

CASE 3. (Recorded by Dr. Guttmann.[2])—The patient was a man aged forty-six; one brother was epileptic, and another had died of apoplexy. At thirty-one he had a feverish attack, with hallucinations of vision, and the following year much severe headache. When forty-five years of age he suffered from rending pains in the limbs for some months, and then occurred the first symptom of the spasmodic affection—tremor of the left leg, increased by putting the sole to the ground. A fortnight afterwards the spasm occurred in the right leg, and still occurred only on attempting to stand. It varied from time to time, sometimes disappearing for a few days. When under observation, a year after the onset, there were violent spasmodic jerks upwards of the body whenever he attempted to stand, ceasing as soon as he sat down. The body was raised about six inches by the spasmodic movement, sometimes in a vertical direction, sometimes with an inclination laterally. If not supported, the patient would in a few minutes fall exhausted. In severe paroxysms the neck and back were arched backwards; the movements were lessened by support on a stick, but then the back was bent back-

[1] Wiener Med. Wochenschrift, 1859, Nos. 4 and 5.

[2] Berlin. Klin. Wochenschrift, 1867, No. 14.

wards by the spasm. There were no spasmodic movements when the patient was sitting or lying, nor if, when lying, the feet were pressed against the foot-board of the bed, nor if, when sitting, they were stamped upon the floor. The spasm was most intense upon rising in the morning, continued severe during the forenoon, lessened during the afternoon, and was very slight in the evening. It varied also from time to time; on some days he would be almost free from it. It was greatly increased by emotion. When he could walk about the country pretty well, it occurred at once if he attempted to walk in a crowded street. When not liable to it, its onset was preceded for a few seconds by an "aura"—an ill-defined but unpleasant sense of contraction, beginning in the feet and passing up the spine to the occiput. When he felt this, unless he sat down, or if when sitting he tried to stand, the spasm invariably ensued. He had occasionally shifting pains in the spinal column, and at times tenderness of the seventh cervical and fourth and sixth dorsal vertebræ, and at one time pressure on the former would bring on slight clonic spasm in the legs and back, even when sitting, accompanied by the "aura" which preceded the spasm. Various remedial agents were tried, including the voltaic current, atropine and curara, but without effect. The symptom continued without change until the patient died of typhoid fever five years later.

CASE 4. (Recorded by Dr. Anton Frey.[3])—The patient was a man, aged seventy, in whom the affection had come on while weakened by an attack of bronchitis. The spasm began suddenly, but occurred at first only when the right leg was placed on the ground. Rheumatic pains in both legs and the left arm preceded the onset for two months. Tremor on movement in right leg and left arm was the first symptom. The affection reached its height in about ten days. When developed, standing was impossible. As soon as the soles touched the ground violent spasms occurred in the legs, raising the heels several inches, not spreading to the arms, synchronous in the two legs at first, but in a few seconds alternating. On sitting down, the movements ceased at once. Very remarkable attacks of clonic spasm occurred in all four limbs (but not in trunk or head) on the slightest passive or active flexion or extension of the left arm or right leg, the clonic spasm being very violent, involving all joints of the limbs, and recurring about 300 times a minute. The spasm began in each case in the part of the limb moved, spread thence to the rest of the limb, then to the corresponding limb on the opposite side, then to the other limb of the opposite side, and, lastly, to the other limb of the same side, and ceased in the reverse order. Immediately after ceasing a fresh movement would bring on another attack. Movements of the left arm and right leg caused no spasm. No cutaneous irritation produced or arrested the spasm, but later on in the case, when the spasm had become slighter, firm pressure on the muscles near the elbow or above the knee arrested the spasm excited by movement. Treatment had little influence on the affection, and three months later the saltatoric cramp was unchanged, although the attacks of tremor were less severe. The muscles of the left arm and right quadriceps extensor had, however, undergone very considerable atrophy, that of the arm being extreme.

CASE 5. (Recorded by Dr. P. Guttmann.[4])—The patient was a soldier, aged nineteen. The onset of the affection was rather sudden, the first symptoms being noticed the day after an exposure to cold—sudden giddiness, with tremor in the legs on an attempt to stand, increasing during the next few days to the characteristic severe clonic cramps on standing, throwing him with violence from the floor each time the soles of the feet touched it. The projection was sometimes directly upwards, sometimes with an inclination backwards, determined by a contraction in the muscles of the back. It appeared to begin in the muscles of the legs, and then spread to those of the thigh. On lying down contractions occurred in these muscles for a few minutes and then ceased. These could also be elicited by a blow on the sole, and in a slighter degree by a blow elsewhere on the leg, and spread to the other leg a second or two after their commencement in the first. When lying down all movements could be executed freely, and with due force. The last cervical and last dorsal vertebræ were tender, but pressure on them caused no spasm. For a time there was no alteration in the patient's state. After three months' duration the spasm on percussion became slight, but the saltatoric spasm persisted for nine months, and then gradually ceased.

(To be concluded.)

3 Archiv für Psychiatrie, Bd. vi., 1875, p. 249.
4 Ibid., Bd. vi., 1876, p. 378.

THE STRUCTURE OF THE ISLAND OF REIL IN APES.

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IT is hoped that no apology is needed for considering the structure of the smallest lobe of the cerebrum apart from the others, when the object of the investigation is known, and when the interest and the difficulty by which the subject is surrounded are borne in mind. My object in the present investigation is not merely to ascertain the actual structural condition of the insula in apes, but also to compare it with that of the corresponding portion of the human organ. The importance and interest of the inquiry need hardly be insisted on. Let it merely be stated that the insula appears to be *peculiar* to man and the higher apes;[1] that it is the portion of the brain which appears earliest both in the human organ and in the animal series; that in man it is very liable to be affected by pathological lesions; and, lastly, that the researches of Ferrier have so far failed to throw light on its function, except such as is derived from the negative results experienced.

The present observations are based on an examination of the structure of the insula in four of the ape family—namely, the Arabian baboon (*Cynocephalus hamadryas*); Sykes' monkey (*Cercopithecus albogularis*); the Malbrouck (*Chlorocebus cynosurus*); the Grivet (*Chlorocebus engythithes*). A very fine specimen of the brain of the Chimpanzee (*Troglodytes*) should also be mentioned as having afforded information as to the general external characters of the insula, but not, I regret to say, as to its minute structure, owing to an accidental circumstance tending to render this unreliable.

The histological preparations on which the following description is based were, for the most part, made according to Clarke's method; some sections also being mounted in glycerine. Very valuable information was afforded on some points by the *fresh method* of preparation.

The general external characters of the insula in apes need not here be considered at any length, these having already been alluded to by Gratiolet. That great anatomist lays it down that in apes generally the insula is smooth as to its surface, in the Chimpanzee and Orang alone presenting a few rudimentary furrows. One observation, however, I may be permitted to make on this point. It does not of necessity follow that where no furrows of the cortex are apparent to the naked eye such depressions may not exist; in other words, there may be dips of the grey matter too small and shallow to be detected except by the microscope. This has been evident in the case of the Arabian baboon, where the insula appeared quite smooth until sections were made, when it became evident that two sulci existed, although of course in an extremely rudimentary form.

With respect to the size of the insula in apes, and the proportion which it bears relative to the rest of the cerebral hemisphere, I cannot doubt that this proportion is in apes greatly less than in the human organ. At present I have no exact data to offer in support of the above statement; but the fact is so evident that it cannot, I think, admit of question. In apes, even in the Chimpanzee, the insula

1 Gratiolet et Leuret, "Anat. Comp. du Syst. Nerveux," p. 111.

is extremely small and quite insignificant in appearance, as compared with other parts of the hemisphere. Oftentimes, indeed, it has the appearance of a small cushion-like body, without definite shape, lying at the bottom of the Sylvian fissure and covered by a mere film of grey matter. The importance of the above fact from a physiological point of view—the fact, namely, that in the apes the insula is *relatively* as well as *absolutely* smaller than in the human organ—must at once be apparent.

Passing now to consider in detail the structural conditions presented by the insula in the four specimens in which the lobe has been studied, I consider—

1st. *The number of the cortical layers.* — I have elsewhere described six cortical layers as being present in the human insula, and have given my reason for agreeing with Baillayer and others that this number usually obtains. And now I have to say that in the apes six layers are also, as a rule, distinctly traceable. Doubtless here, as in every other part of the cortex with which I am acquainted, except the tip of the occipital lobe, some indistinctness of the deeper layers is occasionally seen; but, as a rule, the fact remains as I have stated.

2nd. *The thickness of the cortical layers.* — The fact that in apes the cortical layers of the insula are thinner than in man follows of necessity from the circumstance that in the latter case the entire depth of the cortex in this region is much greater than in the former. But the important point to be ascertained is, whether in the ape the relation between the cortical layers as regards thickness agrees with that observed in man. The answer to this must be in the affirmative. Thinner or thicker bands of cells in the ape follow each other *in the same order*, and *with a similar relation as to depth*, as they do in the insula of the human organ.

3rd. *The relative number of the cells.* — The presence of layers in the cortex is determined to a great extent by the degree of aggregation which the cells assume at various spots. Now it is found that in the apes aggregation follows the same course as in man: in other words, the layers, besides agreeing in depth, agree also, in man and in the ape, in the relative number of their cell elements.

4th. *Relative size of the cells.*—The actual size of the nerve-cells in man as compared with that in the ape will be considered later. But with respect to the relation between the size of cells of the various layers in the ape, it agrees closely with that observed in the human organ.

It is as the result of the agreement in the foregoing respects that the general appearance presented by sections of the insula in man and in the ape, when viewed under a low magnifying power, is so similar. It is as if two bodies of men were drawn up in corresponding order. There might be differences in the size of the men in the two groups—differences, it might be, in other respects,—but, seen from a distance, the general effect on the eye, especially to the casual observer, would be much the same.

In Figs. 1 and 2 are represented, under exactly similar conditions as regards magnifying power, method of preparation, &c., two sections of the island of Reil: Fig. 1 representing the structure in man, Fig. 2 that in the Sykes' monkey (*Cercopithecus albogularis*). Comparison of these two drawings will, I think, make clear and serve to verify the statements I have thus far made with respect to the conditions present in each. It is seen, firstly, that the entire depth of the grey matter is in the ape considerably less than in man, and that in the former case the layers are *absolutely* thinner than in the latter; secondly, that the number of the cell layers is the same in both cases; thirdly, that the layers in both cases coincide in *relative* depth; fourthly, that in both specimens the cell elements of the various layers maintain a closely similar relation as regards relative number and size; lastly, that the general resemblance between the sections is very striking—the plan of arrangement is evidently similar.

And yet, even under a low power, the resemblance will be seen to be not *complete*. It is evident that in the ape the cells are generally smaller than in the human preparation, and that this is more especially the case with respect to the pyramidal-looking bodies of the third layer, so that in the ape the branches of the latter corpuscles are hardly discernible, those in the human specimen, on the other hand, being very distinct, *under the same magnifying power*.

It is thus in all the four specimens of ape brain, and the observation is of much importance. Agreeing as it does with the result of actual measurement (to be recorded later), it places the fact beyond the reach of question. It must be remembered that in the case of the nerve-cells of the brain the forming of an accurate average estimate of size is very difficult. Were, indeed, only relative size the point to be ascertained, I would rely far more on such an observation as that just recorded than on extensive measurements with the micrometer.

(To be concluded.)

FIG. 1.

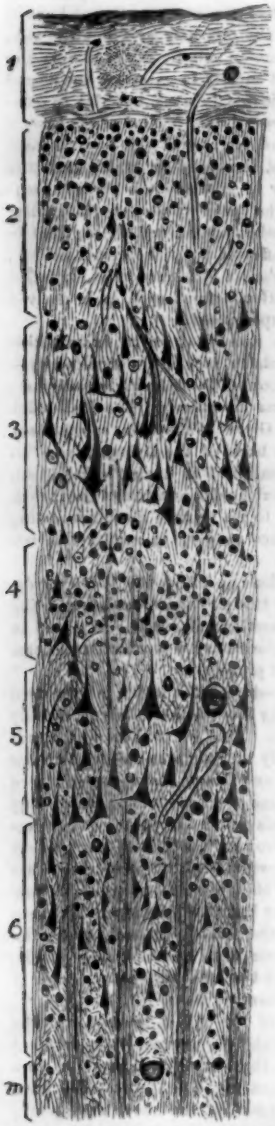

FIG. 1.—Section through a gyrus of the human insula, showing the cortex of the summit of the gyrus. Magnified 60 diameters.

FIG 2.

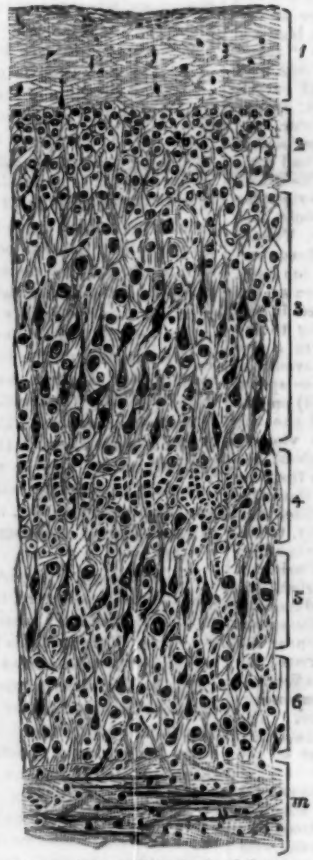

FIG. 2.—Section of the insula of the ape (Cercopithecus albogularis). Magnified 60 diameters.

The figures 1, 2, 3, 4, 5, 6, in both drawings, indicate the corresponding cortical layers. *m*, Medulla.

A CASE IN PROOF OF THE NON-IDENTITY OF VARIOLA AND VARICELLA.

BY SEYMOUR J. SHARKEY,
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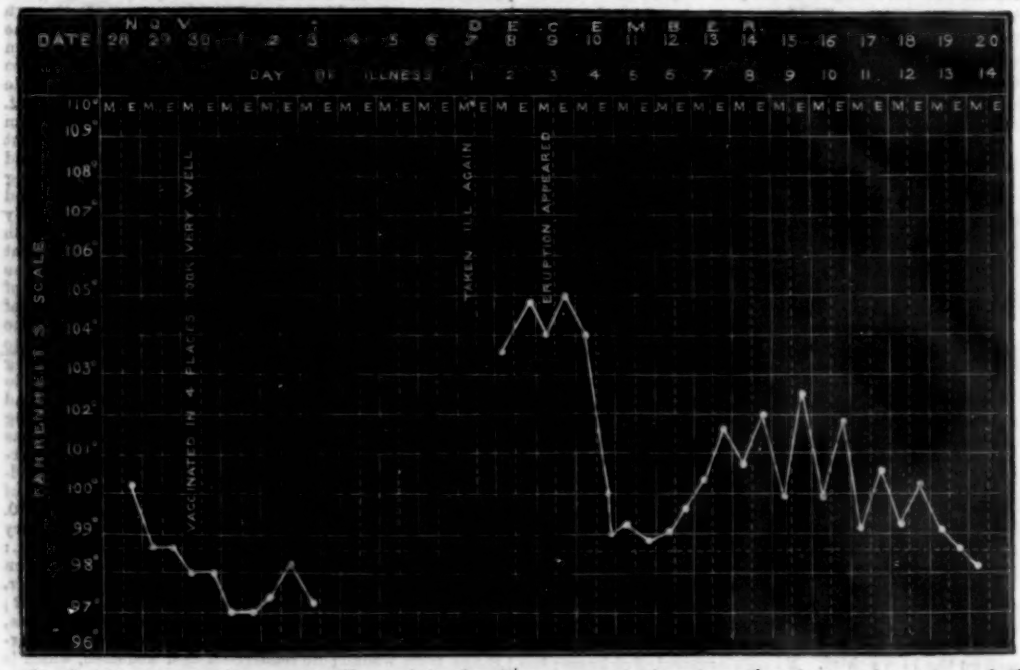
THOMAS B——, aged five years, left the scarlet fever ward of St. Thomas's Hospital on Nov. 22nd, 1876, where he had been under the care of Dr. Bristowe. In the same block, and on the floor above, there were, during the child's stay in the hospital, several cases of small-pox. Since his discharge from the hospital he had never felt quite well, but had suffered from headache, slight pain in the back, and anorexia. His friends brought him back on Nov. 28th, with a vesicular eruption upon him, which was said to have appeared first on the legs, though it was then most profuse on the abdomen and back. The child was stated never to have had chicken-pox, and never to have been vaccinated, and there were no marks of vaccination upon him.


DATE
NOV. 28 29 30 1 2 3 4 5 6 7
DEC. 8 9 10 11 12 13 14 15 16 17 18 19 20
DAY OF ILLNESS 1 2 3 4 5 6 7 8 9 10 11 12 13 14
FAHRENHEIT'S SCALE
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M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E
VACCINATED IN 4 PLACES TOOK VERY WELL
TAKEN ILL AGAIN
ERUPTION APPEARED

On admission, the eruption was not well enough developed to make a certain diagnosis between varicella and variola, and he was therefore isolated in a small ward on the same floor as the small-pox wards. Soon, however, the disease showed all the characters of varicella, and was pronounced to be so by Dr. Risdon Bennett and by Dr. Bristowe. The patient was then removed to the floor below, and during the next few days fresh crops of vesicles appeared, which were vesicular from the first, had no induration around them, and dried up rapidly.

As small-pox was rife in London, and there were cases of the disease in the block, it was thought advisable to vaccinate the child at once. This was done in four places on November 30th. Four very fine vesicles resulted, which ran their normal course at first, but the areola was never properly developed round them. On December 7th—that is, on the eighth day from vaccination—the child became very restless, his sleep was much disturbed by dreams and apparitions; he had pain in the back, vomited several times, and was feverish. The vomiting was frequent and violent on the following day, and on the 9th of December a few papules appeared on the face, then on the arms; and on the 11th the face, arms, legs, back, and abdomen showed a profuse crop of papules which were clearly the early eruption of small-pox, the scabs of varicella being still present. The primary fever was very considerable, the temperature reaching 105° F., but as soon as the eruption appeared it dropped to 99°. The eruption developed in the ordinary way, and secondary fever of moderate intensity set in early, as shown in the temperature chart. The eruption was profuse, but not confluent. Convalescence was very tedious, and was interrupted by an enormous, hard swelling on the left side of the neck beneath the lower jaw, which appeared to commence in the lymphatic glands, and subsequently suppurated. The child recovered however, and was discharged from the hospital on February 10th, 1877.

This is a case of considerable importance, and one that should be put on record, and the paper recently read by Dr. Farquharson before the Clinical Society has led Dr. Bristowe to give me permission to publish it at once. It places beyond doubt the non-identity of varicella and variola, and shows that vaccination does not prevent the incubating poison of small-pox from producing a well-developed attack of the disease, although eight days have elapsed from the time of the operation. It also shows that an individual may harbour at the same time the poisons of two infectious diseases, or at any rate the poisons of varicella and variola, each of which shall in due time produce a well-marked attack of the disease in which it originated. For, if we take twelve days as the usual period of the incubation of small-pox, and ten and sixteen days (Bristowe) as the extremes, the patient in question must have been infected by the poison of variola either when the eruption of varicella was out or during the time of incubation of that disease.

BEQUESTS, &c., TO MEDICAL CHARITIES. — Mr. Alexander Duthie, of Ruthreiston, bequeathed £1000 to the Royal Infirmary, £500 to the Hospital for Incurables, and £500 to the Dispensary, all at Aberdeen. The Dowager Lady Cunningham Fairlie bequeathed £500 to the Glasgow Royal Infirmary, and £500 to the Glasgow Lunatic Asylum. The Earl of Dartmouth has given £100, and the Mercers' Company £105, to the Improvement Fund of the Westminster Hospital. Mr. E. M. Browell has given £100 to the Charing-cross Hospital Extension Fund. The Norwich Dispensary has received £200 under the will of Mr. George Gedge. The Children's Hospital, Nottingham, has received £500 under the will of Mr. Thomas Bishop. The Royal Free Hospital has received £100 under the will of Mr. J. Raphael.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

ABDOMINAL SECTION FOR EXTRA-UTERINE FŒTATION; DEATH ON SECOND DAY.

(Under the care of Dr. HALL DAVIS and Mr. G. LAWSON.)

SARAH A——, aged twenty-seven years, was admitted June 21st, 1877, with circumscribed tumour in left iliac region, occupying also part of left lumbar and umbilical region, and extending from Poupart's ligament to a level with the umbilicus. The tumour was tense to the touch, tender, and presented on palpation a sense of fluctuation even as far as an inch to right side of linea alba. No fœtal movements could be felt, nor could pulsations of fœtal heart nor uterine soufflet be heard on auscultation, made on two consecutive days.

The os and cervix uteri were soft and patulous. Mammæ full, showing the veins well developed; areolæ dark brown; and on compressing the nipples, a yellowish milky fluid (colostrum) exuded. Tongue injected, papillæ large. Bowels confined, and scybala felt in rectum. Complained of much pain in left side, of throbbing character, in the site of the tumour, but the pain was not constant. Patient was rather emaciated; aspect anxious; legs not swollen; anorexia; thirst. Pulse 130; temperature 102·7°. No albumen in urine; heart- and breath-sounds normal.

Family history good. Patient had been healthy up to present illness. Catamenia appeared at sixteen, and continued regular up to Christmas last. Had been married eighteen months, but never pregnant before.

Present illness.—Catamenia came on Dec. 24th last. A few hours after their appearance she was suddenly seized with severe pain in lower and left part of abdomen. Three weeks after this, patient noticed a small lump of the size of a hen's egg above left groin. This gradually increased, and was always tender. For the last month the increase has been more rapid. Two or three months ago she noticed her breasts had become somewhat enlarged. During nearly her whole illness, she says she has been losing blood more or less per vaginam, and on several occasions has passed what she describes as small bits of flesh (blood clots?), and sometimes the blood has been mixed with "matter" (mucus?). She has never felt fœtal movements. On 12th of June she had a severe rigor, and another on the 13th, and on the 14th a third. No regular morning sickness; has lost flesh during the last four or five months, and has had frequent epistaxis in the morning. Bowels mostly confined. Ordered enema of two ounces of olive oil to one pint of warm water to remove scybala.

June 22nd.—Temperature 102·6°; pulse 120. Has not slept. Bowels acted under enema, but as rectum seems still distended with fæces enema is to be repeated.

23rd.—Temperature 101·4°. Slept a little last night. Bowels have acted freely. Feels and looks better. Abdomen still tender. Linseed and opium plaster to be applied. An ounce citrate of potash draught to be taken every four hours.—10 P.M.: Temperature 104°, though at 2 P.M it was 102·4°. Poultices have relieved abdominal pain. Tongue intensely injected, papillæ enlarged.

24th.—Temperature 100°; pulse 124. Bowels open. Slept, but wandered in her sleep. Poultices to be continued, minus the opium, as pain is much less. Urine sp. gr. 1020, acid, no albumen. She takes eggs beaten up with milk and custard pudding.—2 P.M.: Vaginal examination, under chloroform, revealed a patulous cervix, and through the relaxed os the finger passed into uterus, the cavity of which was a little enlarged, but quite empty. A quantity of mucus tinged with blood came away on the finger. Rectal examination reached the lower boundary of the enlargement on the left side. Dr. Hall Davis concluded that the case was one of extra-uterine gestation affecting the left appendages of the uterus.—5 P.M.: At a consultation in the evening the diagnosis was concurred in, and the relief of the patient by operation on the gravid cyst was decided on for the following morning.—9 P.M.: Pulse 138; respiration 44; temperature 102·4°.

25th.—3 A.M.: Temperature 102·8°.—9 A.M.: Pulse 30; respiration 40; temperature 101·4°. Patient has passed a restless night with considerable pain.

Operation by Mr. Lawson.—Chloroform having been given, an incision about three inches long was made over the most prominent part of the cyst, in a line parallel with, but external to, the course of the epigastric artery. Muscles, fascia, and peritoneum having been successively divided, the tumour was exposed. A large vein in the abdominal wall, which bled freely, was tied. The surface of the cyst presented a purplish tint and glistening appearance, and was traversed by large veins and venous sinuses. On passing the hand into the abdominal cavity the anterior half of the tumour was found free, but the posterior part was firmly adherent to the parts behind. After slightly enlarging the wound upwards and inwards, an incision was made through that portion of the cyst which was free from veins. The knife came at once upon placenta. The hand was then passed between a portion of placenta and the cyst-wall, to which it was adherent. The placenta being pressed aside a foot presented itself, by which the fœtus was drawn out. The fœtus was dead, and the skin had desquamated from decomposition. On cutting through the amnion about three-quarters of a pint of dirty sanguineous amniotic fluid escaped. Care was taken to prevent any of this fluid passing into the peritoneal cavity. The umbilical cord was then tied in two places, and divided. The portion of placenta already separated was ligatured, excised, and removed, together with the umbilical cord to which it was attached, a sufficient length of ligature being left by which to remove, when the time should arrive, the remaining and adherent portion of placenta. On looking at the cyst-wall after removal of fœtus a portion of intestine was found adherent to it. The edges of the opening in the cyst-wall were now stitched to the sides of the opening in the abdominal parietes, including the peritoneum, by interrupted sutures. This was done to cut off all communication between the cavity of the cyst and the cavity of the peritoneum. As there was some oozing of venous blood from lower part of cyst, and the pulse was very weak, the cavity was washed out with solution of perchloride of iron (half ounce to pint), upon which the bleeding ceased. The wound was dressed with a light pad of cotton-wool saturated with carbolic acid lotion, 1 in 60. A flannel abdominal binder was adjusted, and a suppository of morphia (half a grain) administered per rectum.—2 P.M.: Pulse 135; respiration 36; temperature 101·7°. Has been dozing most of morning. Urin drawn off, 5 oz., with sp. gr. 1024, acid reaction, no albumen.—9 P.M.: Pulse 132; respiration 40; temperature 102·4°. Has had slight nausea, but no sickness. Pulse is much improved. No hæmorrhage from wound; no tenderness over abdomen, which is slightly tympanitic. Is in no pain.

26th.—1 A.M.: Is sleeping quietly, and has been so for an hour.—8.30 A.M.: Respiration 42; temperature 99·6°. Has passed a comfortable night, sleeping most of the time; the urine was drawn off at 7 A.M., sp. gr. 1024, acid, and slightly albuminous; the vagina was washed out last evening and this morning with weak carbolic lotion, because of an offensive discharge; no change has taken place in the wound, no oozing from it; abdomen tympanitic; pulse almost imperceptible; respiration shallow; complains of feeling of suffocation; no pain.—10 A.M.: Is quite conscious; pulse as before; respiration quicker and more laboured; hands cold and clammy, but feet warm; is very restless; has taken beef-tea, milk with brandy in small quantities, and has sucked ice frequently, for which she much craved.—12.30 P.M.: Is gradually sinking; feet still warm, hands cold; is perfectly conscious, and knows her friends; death took place at 2 P.M.

Autopsy.—The breasts as above described, and on making a section of them, a quantity of colostrum escaped. The edges of the cyst were found softly adherent by lymph to those of the wound. The cyst measured seven inches in diameter, and was situated in the left iliac and part of hypogastric regions, the uterus being below and slightly

anterior to it. The cavity of the cyst was lined along its anterior and upper surface with firmly adherent placenta; the remaining inner surface of the cyst was covered with blackened ragged shreds. The cavity contained in addition a large dark blood-clot. The uterus was vascular, and a little enlarged, its cavity larger than an unimpregnated uterus. No decidua was found; it had probably been thrown off in the discharges. The papillæ of the mucous membrane were enlarged. On removing the genito-urinary organs from the pelvis, the cyst was seen to occupy the position of the left ovary, no trace of which could be found. The left Fallopian tube could be traced up to and was lost upon the cyst-wall. The tube was much thickened and dilated towards its fimbriated end, and filled with thick secretion, some of which looked black. The right Fallopian tube was normal in size, and adherent to the right side of the cyst-wall by its fimbriated end. The right ovary was in its normal position and apparently healthy. A part of the sigmoid flexure of the colon was firmly adherent to the back of the cyst, and a tag of the large omentum was also attached to the front of the cyst. Translucent granules of tuberculosis were scattered throughout both lungs, no portion being free, save a small part of the left base, which was collapsed. Similar tubercles were found in the kidneys, but not in the liver, spleen, brain, or peritoneum. No trace of peritonitis could be found anywhere.

The points of interest in this case are—the diagnosis, the formation of the cyst, and the operation.

1st. *Diagnosis.*—The cessation of catamenia, increasing size of abdomen, steady enlargement of breasts and their subcutaneous veins, with the darkened areolæ, and the formation within the breasts of a milky fluid, pointed strongly to pregnancy as the cause of the abdominal enlargement. On a particular examination of the site of this enlargement, it was found almost wholly on left side of mesial line. On vaginal examination the os uteri was found soft, like that of a pregnant uterus, but it readily admitted the point of the finger, and the uterine cavity was empty. The one-sidedness of the tumour, and the empty condition of uterus, indicated that the pregnancy was of the non-uterine variety. By rectal examination the cyst, believed to be the seat of extra-uterine gestation, could be reached high up towards the left side of the false pelvis.

2nd. *Formation of the cyst.*—The following is the joint report of Dr. Cayley and Dr. Coupland's examination of the cyst:—"We have examined the tumour and cannot find any trace of the left ovary, which appears to be completely amalgamated with the cyst. The fimbriated end of the Fallopian tube was also lost in the cyst, near which the walls of the tube were much thickened. In some places we found unstriped muscular fibre in considerable quantity in the cyst-wall."

3rd. *The operation.*—With reference to the operation there is little to add. The incision was made over the prominent part of the tumour through the abdominal muscles, and not in the linea alba; and, following the course previously adopted by Mr. Jessop, the part of the placenta which was not detached on the introduction of the hand into the cyst was left *in situ*. Had the operation been performed at an earlier period, the chance of success would have been greater. The condition of the patient, suffering, as was revealed by the post-mortem examination, from acute tuberculosis, rendered the operation but a forlorn hope.

SOUTH-LONDON OPHTHALMIC HOSPITAL.

SINGLE OPTIC NEURITIS, WITH MUCH SWELLING OF THE DISC, CAUSED BY A CONTUSION OF THE EYEBALL; NO OTHER SYMPTOMS; RECOVERY OF GOOD SIGHT.

(Under the care of Mr. NETTLESHIP.)

MARTHA H——, aged two years, received a blow on her right eye from an ordinary road-stone, which was thrown at her from a distance of about eight yards. The skin is said to have been slightly bruised, and the eye to have been very bloodshot the same evening, but no "black-eye" followed. She cried a great deal for a time, but had no symptom of injury to the head.

Five days after the accident she was admitted (June 10th, 1876). There was then a small conjunctival ecchymosis at the outer part, but no congestion of the eye; the pupil was partially dilated, somewhat oval vertically, and did not respond to light or shade; the iris was slightly less blue than its fellow, and showed on its lower part a small horizontal line of blood, which projected into the aqueous humour; the anterior chamber was rather shallow, especially at the outer part, where the iris was somewhat bulged forward; no trace of wound or injury to the cornea. The pupil became rather larger after the use of atropine, but did not dilate fully. Ophthalmoscopic examination showed that the media were clear, but the optic disc was hazy and the retinal veins very tortuous. There was no opaque effusion, but a general greyish haze of the disc substance extending for some little distance into the retina. No hæmorrhages were seen. Atropine drops were prescribed.

A week later (June 17th) the following notes were taken: Optic disc more swollen and very grey; veins very large and all the retinal vessels extremely tortuous, but no hæmorrhages. The vessels on the disc are little, if at all, hidden by opacity, and the changes due chiefly to swelling of the deeper layers of the disc and retina close to it. Fundus of the other eye healthy. Ordered one-grain doses of grey powder twice daily.

Next week (on the 24th) the disc was rather less hazy, its margin being now quite visible on the side next the yellow spot. The vessels were not less tortuous. Mercury was continued till the end of July, and produced purging. The child's father then thought her sight so much better that he ceased attending, and Mr. Nettleship saw nothing more of the patient until Oct. 28th, when she was brought at request, and her condition noted as follows.

The pupil was still always somewhat larger than its fellow, but acted to light. No mark of wound could be found anywhere on the cornea or sclerotic. The optic disc was greyish, but not pale; its surface and margin everywhere quite clear and clean (unless a trace of haze at the real lower edge); retinal vessels of normal size, but some of them still too tortuous; much alteration of the choroid around the disc, the changes consisting in disturbance of the retinal pigment and irregular partial atrophy of choroidal stroma. These changes were most marked close to the disc, which was entirely surrounded by a narrow zone of altered choroid; upwards and downwards, along the parts containing the main divisions of the retinal vessels, however, they extended much further from the disc than in the inward and outward directions. They passed gradually into healthy-looking choroid, the degree of change being greatest close to the disc, and gradually diminishing away from it. No disease of retina or choroid could be found in any other parts of the fundus, the lower part of the periphery, corresponding to the situation of the blood-mark on the iris, being examined with especial care. She could evidently see pretty well with this eye, but at her age an accurate estimate of the degree of sight in each eye was, of course, impossible.

Mr. Nettleship said he did not remember to have seen or heard of any case similar to this, in which single optic neuritis quickly followed a contusion of the eyeball without any symptoms pointing either to inflammatory mischief in the orbit or to intra-cranial disease. He thought it beyond doubt that the neuritis was caused by some acute inflammatory change in the orbital part of the optic nerve, most probably by effusion into its sheath, but did not offer any surmise as to the manner in which such a result could be brought about by the injury described.

LIVERPOOL ROYAL INFIRMARY.

CASE OF ASCITES, TAPPED ON FIVE OCCASIONS, CURED BY COPAIBA RESIN.

(Under the care of Dr. GLYNN.)

For the notes of the following case we are indebted to Mr. H. Gorst, house-physician.

Owen R——, aged forty-five, a furnaceman, was admitted November 11th, 1876. He stated that he had enjoyed good health until two years before, when he commenced to suffer from morning sickness, which continued more or less. For the seven years before admission he had taken a great deal of beer, but very little spirits. His occupation exposed him to considerable heat, so that he frequently drank eight or

ten pints of beer before breakfast. About a fortnight previous to admission he vomited a large quantity of blood, and passed blood per rectum for about three days; after this his belly commenced to swell, and in ten days or a fortnight it became enormous. His urine was greatly diminished in quantity, high-coloured, and thick.

On admission there was extreme ascites; he was emaciated, sallow, and slightly jaundiced; urine 16 oz. in twenty-four hours, high-coloured, acid, sp. gr. 1025, no albumen.

After paracentesis the liver was found to be contracted, and nodulated on the lower border. The spleen was increased in size. He was ordered a mixture containing acetate of potash and tincture of digitalis, which he took until December 7th, but the urine did not increase in quantity, never reaching more than 30 oz. in twenty-four hours. Twenty-grain doses of copaiba resin, with a little rectified spirit and mucilage, every four hours, were then given. This he took until December 27th; the urine increased in quantity varying from 60 to 90 oz. in the twenty-four hours. On this day (27th), although the urine had been steadily increasing, as he suffered considerably from dyspnœa from pressure, paracentesis abdominis was performed; 20 pints 8 oz. of clear fluid were removed.

The resin was discontinued, and ten drops of tincture of perchloride of iron were given three times a day until the 20th of January, when the peritoneal cavity was again quite full. There was considerable dyspnœa, and the urine was reduced in quantity to about 14 oz. a day. Paracentesis was resorted to, and twenty-nine and a half pints of fluid were removed. The iron was stopped, and he was put on fish diet with 4 oz. of gin, and he was ordered to inhale thirty drops of oil of juniper three times a day; a strong infusion of digitalis was also applied to the abdomen. From the 20th of January to the 2nd of February the urine averaged about 25 oz. daily; the peritoneal cavity refilled, and on the latter date was tapped, thirty-two pints of fluid being removed. From the 2nd to the 11th of February he took a mixture containing spirit of juniper and infusion of digitalis; the urine did not increase (average about 22 oz.), and the abdomen became full and tense. On the 11th paracentesis was performed, and twenty-nine pints of fluid were removed. From the 11th to the 24th February all medicine was omitted; the gin was increased to 6 oz., as he was very weak; the urine averaged about 30 oz. On the 24th it was necessary to tap for the fifth time, twenty-four pints 10 oz. being removed.

He was again put on the resin of copaiba, twenty grains every four hours. The fluid reaccumulated; at one time there was great distension, but the urine gradually increased in quantity. On Feb. 26th, 42 oz.; March 3rd, 55 oz.; 10th, 75 oz.; 15th, 87 oz.; 25th, 100 oz.; 30th, 140 oz.; April 2nd, 140 oz.; 6th, 130 oz.; 11th, 206 oz.: with an average of 150 oz. a day until the 16th of April, when the peritoneal cavity was quite free from fluid. The resin was then omitted, and the patient was ordered fifteen drops of tincture of perchloride of iron three times a day. He rapidly regained strength.

Reviews and Notices of Books.

A System of Medicine. Edited by J. RUSSELL REYNOLDS, M.D., F.R.S. Vol. IV., containing Diseases of the Heart. London: Macmillan. 1877.

[SECOND NOTICE.]

IN our former notice we passed in review the portion of the work performed by the late Dr. Sibson, and endeavoured to do justice to his scientific abilities and work. We must now more briefly consider the other articles which go to make up the present volume. But first a word with regard to the book as a whole, and its claims to the character of a complete treatise on the affections of the Heart. One or two notable omissions at once strike the reader. No mention is made of congenital malformations of the heart, and this although malpositions are very fully discussed. And again, whilst the weight and size of the heart in health and disease, the position of the orifices, and other points, are discussed with great elaboration, there is absolutely no account of the normal size of the orifices, their relative proportions, and the dynamic effects produced by variations within moderate limits. It would, too, have been a great advantage if disease and malformation of the arch of the aorta and other great vessels had been included in the present volume, as they are clinically so intimately connected with the diseases of the heart. If these omissions are to be supplied, and the other subjects which are yet absent from this System of Medicine, including diseases of the spleen, kidneys, ductless glands, skin, and a few other subjects of importance are thoroughly discussed, we may anticipate two, or even three, more volumes to complete the work.

A short article on the Size and Weight of the Heart, by Dr. Peacock, commences the volume. It is only a brief digest of the author's work on the same subject, and scarcely does justice to the large amount of very careful observation which has made Dr. Peacock an authority on the subject. And, with a reticence and modesty which are perhaps misplaced, Dr. Peacock does not even give the titles of his papers on the subject, nor make any other than a casual mention of them.

One of the most remarkable and interesting articles in the volume is that by Professor Gairdner on Angina Pectoris and allied states. Dr. Gairdner enters fully into the history and clinical aspects of angina pectoris, and also of sudden death from cardiac disorder unattended by pain. The interest of the paper is greatly enhanced by a very full account and discussion of some of the more classical cases of angina pectoris and of sudden death, such as those of Seneca, John Hunter, Dr. Chalmers, and others. Space forbids any detailed account of the paper, which is marked by all the lucidity of expression, wide learning, and scientific acumen, for which the Glasgow professor is famed, and which make the reading of the paper a most pleasurable task. In discussing the intimate pathology of the affection Dr. Gairdner points out that "typical angina is only the culminating form of a group of symptoms which, in their less pronounced, less definitely painful, and more complicated forms, are found to permeate the whole field of cardiac pathology and diagnosis." After a very able and elaborate analysis of the several views and observations on the nature of angina, especially as to its relation to vaso-motor spasm and reflex irritation, he sums up by saying that it is "obviously of a complex character, involving a permanent nucleus, so to speak, of organic change, together with a neuralgic element, more or less pronounced, and connected with this, perhaps as a reflected neurosis in some cases, an element of motor disturbance in the heart's action, which may, in some cases, be of vaso-motor origin, while in others it may be more directly determined through the inhibitory filaments of the vagus. It is probably in the former class of cases that the action of nitrite of amyl is most immediately and surely productive of benefit." Under the head of treatment, there is a careful inquiry into the use of nitrite of amyl, and the occasional dangers which may arise from it are pointed out.

Next in order and in importance comes Dr. Hilton Fagge's article on Diseases of the Valves of the Heart. Dr. Fagge describes very clearly and accurately the changes which occur in the valves from inflammation, and as a result of chronic degenerative changes. In speaking of the mitral valve he expresses a doubt whether, as a result of inflammation, there is ever such contraction of one of the flaps as to draw up and shorten the valve without narrowing the orifice. We have certainly seen this change, and believe it to be much more common than Dr. Fagge supposes. But he is undoubtedly correct in insisting on the great frequency of stenosis of the mitral as compared with incompetency without stenosis—a fact which is too often over-

looked in clinical work. We cannot, however, assent to the proposition that "in a large proportion of cases a reflux of blood into the auricle during the ventricular systole is probably independent of disease in the valve itself, and due to changes in the walls and cavity of the ventricle destroying the due proportion between the auriculo-ventricular orifice and the valve by which it should be closed." This would appear to us not only to be contrary to experience, but to be negatived by Dr. Fagge's own statement as to the frequent existence of stenosis of the valve in cases where regurgitation occurs. In speaking of aortic disease Dr. Fagge very justly insists on the rarity of pure stenosis of the aortic valve—entirely unaccompanied, that is, by regurgitation. There can be no doubt that the latter is prone to occur in all cases of disease of the aortic valve, and that it is far more serious in its results than a moderate degree of stenosis. But here again Dr. Fagge is surely wrong, on a limited experience and the authority of Dr. Moxon, in stating that aortic obstruction without regurgitation is very rare, in spite of the testimony of numerous competent observers. And we cannot but remark that, although personal observation is the best basis of knowledge, and ensures a great practical acquaintance with the subject, it is liable to lead into error if too exclusively relied on. This, and a tendency to ascribe to Guy's men all progress in knowledge, have in several instances led Dr. Fagge to make very remarkable statements. Thus a statement is made of a fact which is certainly neither new nor remarkable, "on the authority of Dr. Wilks," of which the editor observes in a foot-note, "Dr. Walshe taught this clinically twenty-five years ago." And in other instances we find ourselves obliged to accept with a mental reservation the discoveries attributed to the physicians of Guy's Hospital. But in spite of these and other defects, which may readily be corrected, Dr. Fagge's article is a very able and original one, and a valuable contribution to the various problems of cardiac pathology. We would especially commend his discussion of the causes and mode of production of murmurs, into which we have no space to enter.

In discussing the effects of valvular disease, embolism is first treated of, and the results of the deposit of clots in various arteries. We would ask Dr. Fagge whether it is strictly correct to say that "the most frequent effect" of embolism of the cerebral arteries "is the production of right hemiplegia with or without aphasia"; and whether it is not a rather exaggerated statement that "in *almost all* these cases the effects of the occurrence of embolism in particular arteries are complicated with, or probably overpowered by, those which depend upon a general contamination of the blood as it passes over the surface of the diseased valve"? Surely these cases constitute but a very small proportion, and are usually very distinctly separable from those of simple embolism. But for these and some similar statements, which are no doubt oversights, the account of the effects of valvular disease is well written. By far the least satisfactory part is the description of the "subjective symptoms," which is in great part a quotation from one of the least trustworthy writers on the subject, and is extremely poor; happily it is also brief.

We must leave the sections on diagnosis and prognosis, which are somewhat too argumentative, and pass to the subject of treatment. And here, too, we regret to find but little to praise. Dr. Fagge divides the objects of treatment, which he says is usually of effects, into three classes. For the results of simple embolism he recommends, though hypothetically, the administration of ten-minim doses of liquor ammonia in iced water every hour, with three to five grain doses of iodide of potassium every alternate hour. But surely such a powerful stimulant, even if it dissolved one clot, would be likely to lead to the dislodgment of another vegetation, with, perhaps, worse results. For the second object, to relieve the results of the circulatory derangements, Dr. Fagge very properly insists on rest in cases of aortic regurgitation. But we are fairly astonished by the following statement:—"For the less severe effects of aortic regurgitant disease, the slighter degree of malaise and discomfort caused by it, senega is the common remedy." The author goes on to say that, as ammonia is usually given with it, the effect may be due to the latter, but he does not think so, as he has given it alone with benefit, and "the late Dr. Barlow used to teach that in many cases only moderate doses could be borne." Belladonna and atropia and other cardiac sedatives are not here mentioned in the treatment of aortic disease, and the use of digitalis is rather discredited. In mitral disease digitalis, bleeding, and purgatives and diuretics are the means discussed; and, finally, for the relief of subjective symptoms the usual sedatives are advised. But the section on treatment is very inferior to the rest of the article. Still Dr. Fagge has performed a difficult task on the whole in a very excellent and praiseworthy manner.

The articles on Atrophy and Hypertrophy, Dilatation and Fatty Degeneration of the Heart, by Dr. Gowers, call for few remarks. Although brief, they contain in a concise and well-digested form a very large amount of information. They are well and carefully written, and are thoroughly scientific, and *au courant* with the most recent work on the subject. Indeed, we are inclined to consider them, as regards their style and contents, as the most satisfactory articles in the book, and as models of what such articles should be.

Science made Easy. A series of Familiar Lectures on the Elements of Scientific Knowledge most required in Daily Life. By THOMAS TWINING. London: Chapman and Hall. 1876.

THESE lectures are simple, popular, and good, and seem to us to be admirably suited for the purpose for which their author has written them—viz., the instruction of the labouring and non-scientific classes in those facts of science which accost us momentarily in daily life, and the due appreciation of which is of incalculable importance. The readers of THE LANCET will not find many, if any, scientific facts in these pages with which they are not already acquainted, but we venture to think that no public lecturer could peruse these lectures without deriving very much valuable information concerning the details which determine the success or otherwise of a public discourse. Mr. Twining employs two persons—a reader and a demonstrator; the one chosen for his voice and elocutionary powers, and the other for his skill in manipulative details. The reader and demonstrator have each their full instructions; they rehearse together, and learn their respective "cues," and it is found that this binary method of delivery is productive of the best results. The instructions for these two persons are very precise and excellent, and valuable hints are given as to elocution, rate of progress (a very difficult matter with all young lecturers), and the various trifles which constitute the "business" of a public lecturer.

There is a capital section on the chemical apparatus and glassware which are best suited for popular lectures in chemistry, admirably illustrated, and well provided with those details as to size, cost, &c., which are so much needed and so difficult to find.

The remarks on Diagrams are to the point, and all the details of cardboards, mountings, colours, &c., are given at length. Some few diagrams illustrative of these lectures are being published by Messrs. Chapman and Hall.

The remarks on "accessories" are fully as practical as the other sections of the work, and any lecturer who follows the advice given will be armed at all points and ready for all emergencies.

The lectures which have already appeared are beautifully printed in quarto size, are very cheap, and are well illustrated, and comprise, besides the introduction, elementary discourses on mechanical physics (three lectures), chemical physics, inorganic chemistry, and organic chemistry, and we can conceive nothing better calculated to lead untutored minds to dwell on the all-important truths which surround them.

Closely connected with this course of lectures is the history of the Twickenham Economic Museum, an institution on which Mr. Twining had spared neither pains nor outlay, and which would have become more generally known had it not been unfortunately destroyed by fire in 1871.

We believe we are right in stating that Mr. Twining has taken a lively interest in the establishment of the Parkes Museum at University College, which he has helped with money, material, and advice. There is some hope, therefore, that many of the excellent points observable in the Twickenham Museum may reappear in the Museum of Hygiene which is being established in Gower-street.

REPORT
OF
The Lancet Sanitary Commission
ON THE
DWELLINGS OF THE POOR.

VI.—THE VICTORIA DWELLINGS, BATTERSEA.

The Victoria Dwellings, situated in the Battersea-road, at the south-east angle of Battersea-park, comprise tenements for labourers and artisans, and will, when they are filled, accommodate between nine hundred and a thousand persons. This is the first instalment of the work which the Victoria Dwellings Association has set itself to do; and we can wish nothing better than that the success of the present buildings may be so great as to ensure a rapid growth of suitable house accommodation for the artisans and labourers of the metropolis.

The situation of the dwellings is perfect; it is light and airy, and within two minutes' walk of the York-road stations of the South Coast and London, Chatham, and Dover Railways, so that those occupants of the dwellings who have no work in the immediate neighbourhood may get with ease to any part of London by frequent trains.

The buildings are of light brick, with red-tiled roofs, are four storeys high, and are built in a quadrangle, with two detached terraces. A glance is sufficient to show the purpose for which the buildings are intended. They have the unmistakable "model dwellings" stamp upon them, and show no advance whatever from the æsthetic point of view. If it is really impossible to erect a durable and economic structure which shall also please the eye, we must, we suppose, accept the inevitable; but we cannot but think that the problem of combining utility and economy with a certain amount of elegance may yet be solved: the architect who would do this for us would do a great work.

The Association ought to be able to give some very good reason for choosing the quadrangle as its plan of construction. It is not a very economical way of occupying space; it effectually prevents the free sweeping of the area by the wind, and secures a most monotonous outlook for the great majority of the occupants of the tenements. Children are to play in these quadrangles—an arrangement which will provide a maximum amount of noise for invalids and students, of which latter we may hope to see many among the children of the now well-taught poor.

The buildings are four storeys high, the total height being about forty feet. On each storey the tenements are arranged back to back, facing in opposite directions. Each stair-landing gives access to four tenements, and each common stair accordingly feeds sixteen tenements. The stairs are made of concrete, with brick walls; and are lighted by gas, which is carefully protected. Each landing is open to the air, so that the staircases are most thoroughly ventilated—a point of prime importance. There are ten staircases, and they strike us being rather inconveniently narrow for bringing large movables, or even coals, up and down. If a plan other than the quadrangle had been chosen, a smaller number of staircases would have been necessary, and each might have been double the width, which would have much increased their utility. There is no basement storey to the building, which is perhaps an advantage from a sanitary point of view, and we should in no case counsel the use of basements for dwelling houses. A basement, however, might be used for many purposes which would be of service to the tenants, and would help to augment, possibly, the dividends of the shareholders. Why should not the basements be arranged as shops and stores to supply the wants of some of the occupants? Wood, coal, chandlery, or groceries, might very well be retailed below the street-level. A café restaurant, a library and reading room, a workman's club, and a provident dispensary, might all, we should think, find fitting accommodation in a well-arranged basement; and the introduction of such institutions would be, in every way, highly advantageous. Trucks and barrows might also, by a little management, be stowed below the street-level.

At present every tenement has its own coal-bunker, and each of these will hold something like a ton of coals. To transport a ton of coals, however, from the street to a room on the fourth storey is a heavy and a dirty business, and we should have thought that a series of bunkers in a basement, whence coals might be brought as required, would have been a better arrangement. The coal-bunkers are not so handy as they might be, and the Society will do well to select a better pattern. At least they should have a metal bottom gradually sloping to a properly-curved scoop-hole. They should be painted black, and not white.

Why should not the occupants of these dwellings enjoy the luxury of a lift? This might very well be managed if the ground plan were more like the letter X, with a fine central staircase, with a lift in the middle. With this arrangement there would be no difficulty in hauling coals, bedsteads, chests of drawers, or anything else, to any storey, and there would be no serious objection to having the buildings half as high again as they are at present. With the present plan of one staircase to every sixteen tenements a lift is, of course, out of the question.

Passing from the general arrangement to the tenements themselves, we have first to remark that they consist, in the artisans' block, of groups of three and four rooms, and that the weekly rental varies from seven to nine shillings a week. Arriving on a landing of the stair, we come to a white-painted door, with its knocker and number. Within this door is a complete dwelling—sitting-room, one or two bedrooms, kitchen, and watercloset. The carpentry did not strike us as being of a high order; the chinks between the boards of the floor are too visible, and a window which we inspected did not run up and down as it should. The shareholders should be well-advised as to the most economical course to be taken in these matters. The windows are in three pieces, which are all movable vertically. It is intended that the bottom section should prevent children from falling out of the window. This, we think, is a good arrangement. Outside every window is a little flower-box. The walls are papered, but we confess we should have preferred to see them distempered, as at once cheaper, prettier, and more wholesome.

The sanitary arrangements are good. The drains, we are told, are all trapped, "cut off" when possible, and ventilated. There is a constant water-supply, and the self-acting waste-preventing tap is simplicity itself. It consists of a lever weighted with a leaden ball, which, by obeying the force of gravity, tends to arrest the flow. When water is wanted,

the lever must be retained in a vertical position. The water-closets are supplied from separate cisterns; they are Jennings's best make, and they act perfectly. Each closet has a large window.

The sinks are admirable, and have been especially devised by Mr. Jennings for buildings of this kind. They are of galvanised iron. At the right-hand end a chamber is shut off by a diaphragm descending within a sixth of an inch from the bottom. To the right of this diaphragm is the waste-pipe, to which the water flows through the slit, the slit allowing a free passage for the water, but arresting particles of any size. The waste-pipe is closed by a simple plug, and as it is "cut off" below, no complicated and troublesome trap is necessary. It may be well to remark that the one sink we happened to inspect had been so fixed that it sloped in the wrong direction—a fact which, we are afraid, is characteristic of the "intelligent artisan" of whom we hear so much.

The Victoria Dwellings Company will do well, we think, to avoid dust-shoots for the future. All kinds of matter are thrown down them, and they very often degenerate into chimneys lined with more or less decomposing matter. They are dangerous channels of air-communication, and the theories of "dust and disease," at least render it possible that scarlet fever or other contagion may be blown *vid* the dust-shoot from one tenement to another. The dust-shoots lead to dust-bins which stand in the quadrangles, and which, from a sanitary point of view, appear to us to be very ugly arrangements. Every housewife should be taught to take her dust daily by hand and deposit it in a suitable dust-bin outside the area occupied by the buildings. These dust-bins are not, as such, well contrived. The doors by which they are emptied should directly face the quadrangle, and they should be lined with iron and furnished with a proper scoop-hole.

The laundries are in separate buildings, and are not on the roof, as is the case in some other dwellings of this class. It is found, we believe, that laundries on the roof occasion an amount of noise which proves a decided nuisance to the dwellers immediately beneath. *There is a special laundry for infected clothing.* This is a step in the right direction, and is, perhaps, the most commendable feature in the new buildings.

The labourers' tenements do not differ materially from the artisans' dwellings, except in the fact that the accommodation is smaller, that there are some single-room tenements, and that the waterclosets are in the passages.

Next, let us glance at the financial aspects of this scheme, for it is plainly evident that the only way to adequately house the poor of London is by demonstrating that a fair interest on capital may be reasonably expected. The Battersea dwellings stand on two acres and a quarter of ground, of which the Society have purchased the freehold from the Government for £3600. The dwellings themselves have cost £33 800, so that the total capital employed at Battersea is £37,400. For this sum 456 rooms have been constructed, at an average cost of £82 per room (roughly), which will afford accommodation for 900 persons at an average cost of £41 5*s.* per person. If the Society is to pay a dividend, as we hope it may, to its shareholders of £5 per cent., it cannot afford to let its rooms for a sum of less than 10 per cent. on their cost, for, besides a reserve fund which will be necessary for repairs, the Society has to pay all rates and taxes, the salaries of necessary officers, and to find water and gas (in part). At this rate the rental for each room would have to be, on an average, about £8 5*s.* per annum, or nearly 3*s.* 2*d.* per week, a sum which is by no means extravagant; and the best proof that it is not lies in the fact that the rooms are being let as fast as possible. On this calculation the rental of the buildings would be about £3740 per annum, of which £1870 would be absorbed by the dividend, and the balance would be set aside for the purposes named. Provided the dividend be limited to £5 per cent. as a maximum, the Society will, of course, take the highest rent obtainable for its rooms, and in this way the success of some speculations will counterbalance the possible failure of others. If the present buildings had been provided with a basement and another storey, it is evident that its chance of commercial success would have been increased, and its sanitary qualities in no way lessened.

The Society is preparing to occupy a space near King's-cross, on which they hope to build tenements for 2500 persons. In the plans for these new buildings we are glad to see that the quadrangle has not been adopted.

THE PHYSIOLOGY OF SUGAR IN RELATION TO THE BLOOD.[1]

BY F. W. PAVY, M.D., F.R.S.

Amount of Sugar contained in the Blood.

DR. PAVY read his second communication on the Physiology of Sugar in Relation to the Blood before the Royal Society on the 21st ult. This paper formed the continuation of a previous one read on the 14th ult., in which the author described in detail his new gravimetric process for the accurate determination of sugar in blood. The present communication is the issue of the application of that process.

Dr. Pavy dealt with the question of the quantity of sugar in the system under the following conditions:—1. The amount which exists in blood in its normal condition. 2. The comparative state of arterial and venous blood. 3. The spontaneous change which takes place in blood after its removal from the system.

The author pointed out that the very rapid changes which take place in blood under altered conditions of the system render it essentially necessary that the greatest precaution should be observed in order to obtain blood in its natural condition. If taken during life the animal should be in a perfectly tranquil state. If after, it should be procured as instantaneously as possible after the death of the animal, so that no opportunity could be afforded for the blood to be affected by the post-mortem production of sugar in the liver.

The experiments now under notice were made on dogs', sheep's, and bullocks' blood, and a series of six, in one case seven, examinations of each kind instituted, and two analyses made for every sample taken.

In quoting Dr. Pavy's figures we are giving the mean of the two separate analyses. It is necessary, however, to state that the extremes of each show but trifling variations, and these are rarely so great as to affect more than the second figure in decimals. The differences were so slight, indeed, that had the results been obtained by rival analysts no dispute could have arisen, as the variations were within the recognised range.

Dr. Pavy detailed the precautions which he adopted in order to secure blood from the various animals in its natural state. In the case of the dog, the painless and instantaneous mode of destroying life by pithing was performed. The larger vessels in the chest were immediately freely incised and the blood collected and analysed before coagulation could take place. With the sheep the blood was obtained from animals slaughtered in the ordinary way—viz., by division of the vessels of the neck; and the time which elapsed between collection and the commencement of the analysis was not more than a quarter of an hour. The blood of bullocks was obtained from animals slaughtered by the Jewish method; this consists of a sudden severance of the soft structures of the neck down to the vertebral column. The incision yields arterial blood, and the time which elapsed between collection and the commencement of the analyses was one hour.

The mean results of seven examinations of dogs' blood showed the amount of sugar which it contained in parts per 1000 to be as follows:—0·751, 0·786, 0·700, 0·766, 0·786, 0·921, 0·803 respectively. This gives an average of 0·787 on the whole series. The blood of sheep yielded 0·470, 0·490, 0·517, 0·559, 0·569, 0·526 respectively, or an average of 0·521 parts of sugar per 1000. The bullock's blood gave 0·703, 0·525, 0·492, 0·456, 0·499, 0·588, or an average of 0·543.

In each of these experiments every care was taken to secure the blood in such a manner that it was a reliable representation of its ordinary condition during life. Unless such precautions are taken the results obtained will be, in

[1] Abstract of paper read before the Royal Society, June 21st.

a physiological point of view, worthless and misleading. This fact was strikingly illustrated by a comparison of results which Dr. Pavy obtained from four bullocks killed in the ordinary way—viz., by felling the animal with a pole-axe, and breaking up the spinal cord by means of a cane. In the first two of these observations the opening into the bloodvessels was made as speedily as possible after the animal had been felled. In the next two Dr. Pavy had reason to believe that this necessary condition had not been complied with, and that some little time was allowed to elapse between the felling of the bullock and the opening of the vessels. The effect of this delay in the post-mortem production of sugar is shown by the following results:—Blood of the first two bullocks (mean of two analyses) yielded 0·596, 0·688, parts of sugar per 1000, respectively. In the second two a mean of 1·053 and 1·094 parts of sugar per 1000 were given.

The conclusions to be drawn from these various experiments are, that the amount of sugar contained in the blood of sheep and bullocks is about ½ per 1000, or 1 in 2000, and in a dog about ¾ per 1000, or 1½ per 2000. Taking the results of the whole series of observations they show a remarkable uniformity and harmony in the amount of sugar contained in the blood of the respective animals.

In striking contrast to this uniformity and consistency of the results attained by Dr. Pavy are the figures given by Bernard, who states (in *Comptes Rendus*, June 19th, 1876, p. 1409) that the lowest limit of sugar in the blood is 1 per 1000, and that in the normal state the amount of sugar varies from 1 to 3 per 1000.

Comparative State of Venous and Arterial Blood.

The author next considered the comparative states of the arterial and venous blood. This part of the subject is one which possesses the greatest importance from a physiological point of view.

One of the effects of anæsthetics on animals is to occasion an abnormal amount of sugar in the blood. In order to attain accuracy, therefore, it is indispensable that blood should be taken at a time when the animal is not under such influence.

In the first observation made on the blood of a dog, life had been instantaneously destroyed by pithing, and collections were made immediately after from the jugular vein and crural artery. No time was allowed for the effect of post-mortem formation of sugar in the liver to influence the blood. The results obtained by this method were as follow:—Crural artery, ·799, ·791; *mean*, ·795. Jugular vein, ·793, ·791; *mean*, ·792. In order, however, to obtain evidence to which no exception could be taken, Dr Pavy adopted another method of procedure, which he was enabled to do just prior to the meeting of the Society, from having a restriction previously imposed under the Vivisection Act removed. This enabled him to collect the blood under the natural conditions of life, both from the carotid artery and the jugular vein. The animals operated upon were placed under an anæsthetic, during which time the vessels were exposed and a thread placed loosely round each. After they had regained tranquillity, and the effect of the anæsthetic passed off, the vessels were drawn forward and openings made into them to allow of the simultaneous escape of blood. So quietly and painlessly was this operation of collection performed, that the animals themselves manifested no sign of consciousness of what was taking place. The analyses of the blood obtained in this manner were commenced before coagulation had time to occur, and the results were as follow:—No. 1: Carotid artery, ·806, ·817; *mean*, ·811. Jugular vein, ·808, ·788; *mean*, 798. No. 2: Carotid artery, ·854, ·873; *mean*, ·863. Jugular vein, ·863, ·896; *mean*, ·879.

From these figures it is clearly evident that no material difference exists in the amount of sugar contained in arterial and venous blood.

Compared with these results the figures given in *Comptes Rendus* lxxxiii., No. 6, p 373, by Bernard, stand in direct opposition. His volumetric process tends to show that a disappearance of sugar takes place largely while the blood is passing from the arterial to the venous system. In the journal referred to he gives the results of five observations referring to the crural artery and vein, and three to the carotid and jugular.

The mean of these several observations show an apparent difference between arterial and venous blood of ·300 part of sugar per 1000. The least difference stands in an observation in which the figures are 1·100 parts per 1000 for arterial, and 1·080 for venous, showing a variation of ·020. The greatest difference is in an observation where the figures stand 1·510 for arterial and ·950 for venous. This comparison relates to the carotid artery and jugular vein, and the difference amounts to ·560 parts per 1000, which represents actually altogether a larger proportion of sugar than Dr. Pavy has found to exist naturally in the blood of the sheep and the bullock.

Spontaneous Disappearance of Sugar from Blood.

Turning to the third part of his subject—viz., the spontaneous disappearance of sugar from blood after its removal from the system,—Dr. Pavy gave the results of a series of analyses he had conducted, and which are as follows:—

No. 1.	Taken immediately after death ...mean	·786
	„ after 1 hour ..... „	·739
No. 2.	Taken immediately after death... „	·700
	„ after 1 hour ..... „	·670
No. 3.	Taken immediately after death... „	·766
	„ after 1 hour ..... „	·751
	„ „ 23 hours ..... „	·285
No. 4.	Taken immediately after death... „	·786
	„ after 1 hour ..... „	·728
	„ „ 24 hours ..... „	·302
No. 5.	Taken immediately after death... „	·921
	„ after 1½ hours ..... „	·793

A somewhat parallel series of experiments, made by Bernard, and published in *Comptes Rendus*, June 19th, 1876, show a remarkable discrepancy with the foregoing. Bernard's figures show—

Amount of glucose immediately after death	1·070
„ „ after 10 minutes	1·010
„ „ „ 30 „	0·880
„ „ „ 5 hours	·440
„ „ „ 24 „	0·000

Dr. Pavy pointed out that there was nothing new in the suggested discovery that a gradual destruction of sugar takes place with blood after its removal from the system. He himself had brought the fact before the notice of the Royal Society so far back as 1855, when he stated that under the changes of the decomposition of blood normal animal glucose is very readily metamorphosed; the rapidity of the metamorphosis depending on the activity of the decomposition of the animal substances present.

In conclusion the author stated that the evidence adduced in this communication shows that the results which Bernard has obtained by the experimental *modus operandi* he has been recently employing are erroneous, and consequently the inferences he has drawn from them are equally in error. The cause of truth and the interests of science demand that what he has recently been advancing should be eliminated from physiological literature.

A NEW MEDICAL WARRANT.

WE understand that a Royal Warrant is to be published almost immediately by which, for the first time, we believe, in the history of the Army Medical Department, the medical officers will be invested with the requisite disciplinary power for managing their own affairs. This will give effect to the new arrangements for the field, and in station hospitals, and the medical service will henceforth undoubtedly occupy a more independent and secure position. We hope that in process of time the details of the new organisation will be completed, and that, should we be unhappily engaged in war, we may have to record that the medical branch of the service had all the necessary field hospital equipment and transport for effectually carrying on their duties.

VACCINATION GRANT.—Mr. J. B. G. G. Moore, of Ongar, Essex, has received the sum of £3 3s. from the Local Government Board for successful vaccination.

THE LANCET.

LONDON: SATURDAY, JULY 14, 1877.

THE Senate of the University of London, at its meeting on Wednesday, July 4th, received and adopted the report of its Committee on the admission of women to degrees in Medicine, and has committed itself thereby to certain important modifications in its regulations. The Committee begin by recommending that women shall be under the same regulations as to course of study and examinations as men, but immediately make exemptions, for women who commenced their studies before Jan. 1st, 1875, are to be admitted to examination under less stringent conditions than those who may hereafter enter, and the Senate is to consider "on their merits" such applications as may be made by women who commenced their studies before the time mentioned for dispensation from the regulations respecting places, order, and mode of study, and for exemption from the Matriculation examination. These dispensations are advised "because many women in actual practice are anxious to obtain the London degree"; but it is difficult to understand how, on this explanation, the date of the commencement of study has been fixed little more than two years back. Surely no woman is in practice who commenced her studies so recently as Dec. 31st, 1874. The Senate has also resolved to receive certificates from foreign schools in the case of women on account of the greater facilities there open to them to study medicine. It is remarkable that so long ago as March last the Committee recommended a report identical with that accepted, so that it is plain that, though many members of the Senate (the Chancellor and the Member of Parliament amongst the rest) have since last March publicly denied that there were to be any modifications in the case of women, some modifications must have been contemplated. It is needless to discuss the dispensations; but it is evident that if the University admits certificates from foreign schools as sufficient proof of efficient training in the case of women, it cannot refuse the same boon to men.

However, the majority in the Senate seems to have been in no way affected by the powerful appeals made to it. But we understand that the senators were at first not quite agreed as to the method of examining women. Sir WILLIAM GULL was of opinion that women should be examined in all subjects, while Sir JAMES PAGET repeated his opinion that it would be a scandal and a disgrace to the University should it examine women in certain subjects. And we quite agree with Sir JAMES PAGET; but it ought to have been present to his mind that no one should become a possessor of the London University degree in medicine unless he or she has received an all-round medical education. Surely it is impossible to make specialists of women any more than of men without first giving them a general medical training, and it is not possible to be sure of the training without actual examination. Yet Sir JAMES PAGET, after stating his opinion, gave way, and has thus placed himself in this position: he has voted—of course unwittingly and actuated by the best of motives—for a state of things which he has publicly and privately asserted will be a scandal to the University, and must inevitably bring disgrace upon it. In this fact alone have we not sufficient evidence of the difficulties in which the Senate has placed the University of London? It would be easy to multiply these difficulties, and, admitting as we do that the University of London, as mainly directed by its Senate, has done more than its share to improve medical education and to advance the social status of the profession, we feel bound to decry its recent hasty action—action taken at the bidding of an outside clique, and totally uncalled for in the case of a corporation like that of the University of London.

The question is a very serious one, and concerns the medical graduates far less than the Senate and Convocation generally. The senatorial majority had made no special investigation into the subject of the admission of women to medical degrees; they had appointed no committee to determine whether, in the interests of the public, they were justified in going against the great body of the medical graduates and a large and influential contingent from the Faculties of Laws and Arts. The majority in the Senate have done that which we are sure they must regret—they have destroyed that harmony between themselves and Convocation without which we do not hesitate to say the University can never prosper. Let any one interested in the University look back, and he will find that the success of the University has depended greatly on the good feeling which has prevailed between the Senate and the graduates of the University. The Senate initiated its recent proceedings, everyone admits, unexpectedly; it has continued them with undue haste—with rashness indeed—notwithstanding the appeals made from various directions, appeals made in a fair and proper spirit; and we fear its method of procedure is going far to alienate many of its most able graduates. Already a requisition, signed by graduates belonging to all faculties, has been submitted to Dr. STORRAR, the chairman of Convocation, asking him to convene a special meeting of that body for the purpose of determining whether or not the Senate has infringed the constitutional privileges of the graduates. We suppose the Senate had a legal right to go out of its way to pick up a permissive Act, and by its means override the spirit of the University Charter, wherein it is expressly stated that no alteration in the Charter shall be made unless the consent of both Convocation and the Senate be obtained. The Senate has made a most material change, as is proved by the fact that as there is no permissive Act by which it can admit women to degrees in faculties other than the medical, it must obtain a new Charter to enable it to do this, and the consent of Convocation to that Charter. Has there not been at least a moral infringement of the rights of Convocation? The Senate, at its meeting on Wednesday, July 4th, agreed to ask the law officers of the Crown whether there had not even been a legal infringement. Surely this state of things ought not to be, and, for the sake of the University, we hope the senatorial majority will meet Convocation in a conciliatory spirit. The Annual Committee have followed the large body of graduates, and have taken

this matter up. At a meeting held by them on Friday, July 6th, they resolved, by a majority of fifteen to seven, to test the question whether or not the privileges of Convocation had been infringed; and it is to be noted that in the minority of seven were the names of three senators who have been throughout active agents in support of the admission of women. The admission of women to medical degrees has, however, become comparatively a small question, and we are convinced that if a division on the wider question of the privileges of Convocation be taken, the result will convince the Senate that the graduates of the University generally will assert their rights as laid down in their Charter.

MEDICINE rarely appears to advantage in courts of law and justice. This unfortunate circumstance is, perhaps, in great part due to the inaptitude of men accustomed to deal with natural science for a system and methods so entirely artificial as those approved in the forensic arena, and by tacit agreement accepted as true. The rigid formulæ and processes founded on arbitrary dicta, however wise, and abstract inferences, however well worked out, are manifestly inapplicable to the exigencies of truth-seeking in a province where every case or instance stands on its own basis, and can neither be ruled by precedent nor judged by rule. When medical witnesses are called to give an opinion, they are bound to express the result of a process of reasoning in which each step in advance throws new light on what has gone before, so that the conclusion at which an expert physician or surgeon arrives when he is able to look back on the history of a case fully developed may not accord with the view he was induced to take at the beginning. If he incautiously, or under compulsion, expressed an opinion at the outset, it is quite possible he may see reason to modify and even totally reverse that opinion at the close. This must needs happen every day; and the practitioner so contradicting himself is neither unworthy of confidence nor dishonest. On the contrary, he would be unscrupulous and untrustworthy if he hesitated to tell "the whole truth" in a case, although the end of the narrative refuted the beginning. This is what lawyers, and we regret to say some "sensible" and "educated" judges, do not perceive. It is hard to blame men who, having no experience in the observation of natural processes, fail to recognise the part which *change* plays in the development of truth. We have, however, a right to expect that a liberal education and experience of the world should inspire lawyers of all grades with wit to avoid the reckless attempt to enforce obligations which cannot be honestly discharged. We offer no opinion on the remarks volunteered by Lord COLERIDGE upon the evidence of Mr. STICKLAND at Winchester. It is sufficient to point out that the charge of incredibility could find no sufficient justification in the supposed inconsistency of two views as to the weapon with which a particular wound was inflicted. It not unfrequently happens that a blow over a sharp ridge of bone will produce an apparently incised wound, which, as far as appearances go, may, we would even say is likely to, have been inflicted by a cutting instrument. Subsequently, however, it will be seen, from marks of contusion surrounding the immediate seat of the injury, that the weapon was probably large and blunt. On the other hand, the effusion and swelling round an incised wound caused by a sharp instrument, will prove so extensive as to lead the surgeon to change his first impression, and think it may have been inflicted with something large, and perhaps even soft, as the hand. These seeming contradictions are strictly compatible with the strongest desire to form and express an accurate opinion. We repeat, it is not our purpose to criticise the view adopted in a particular case, but to point out that no sensible man would presume to decide an issue of this description without hearing all that could be urged in explanation of the change of opinion, and even then a judicious layman would decline to declare the contradiction a violation of truth.

Unhappily it has yet to be made clear to the forensic mind that what the Court elicits from an expert is not, and in the nature of things cannot be, fact, but opinion. If a medical witness simply bore testimony to circumstances patent to everybody, or capable of being recognised and estimated by laymen, he would not be classed as an "expert." We must even go one step further, and insist that the subject-matter of medical testimony, properly so called, is not of a nature to be tested and verified without medical knowledge. For the most part, lawyers, whether at the bar or on the bench, can only obtain a superficial notion of medicine and surgery from the manuals of jurisprudence compiled by teachers who seek to exhibit the legal aspects of professional subjects to minds trained in their complete investigation. A manual of medical jurisprudence written for medical students is at best a little law grafted upon medicine. If a man instructed in medicine consults a work of this character, he sees law through a medical glass dimly. If a lawyer repairs to the same authority, he is probably scandalised at the imperfection of the law, and his perspective view of the medical matters beyond is proportionally defective and distorted. This cannot well be avoided. If the author be trained in law as well as medicine, he has probably a scant knowledge of both, and if a lawyer and a doctor combine to produce a text-book the result is generally a compromise which ends in confusion, and is thoroughly misleading. In short, only a medical man can understand medicine; and when men of law, however erudite in their department, undertake to decide where "doctors differ"—either from each other or their own previously expressed opinions,—they attempt a task for which they have no more professional competency than a physician or surgeon would possess for the function of adjudicating a "point of law." This seems a very plain fact, but, unfortunately, as we have before observed, it is not recognised.

Medicine will never make a respectable figure "in court," or, which is incomparably more important, render satisfactory service in the cause of justice, until it is accorded the status and receives the treatment due to a specialty. The forensic situation is at this moment anomalous and indefensible. While the legal mind would recoil from the absurdity of pronouncing a judgment on issues technical in the provinces of trade, art, and even property, it is apparently embarrassed by no doubt of its perfect competency to grapple with the difficulties of medical doctrine and practice, albeit those who are versed in the mystery cannot themselves achieve unanimity of thought or action. One of the most humiliating and urgent consequences of

this circumstance is the occurrence of conflicts not less disastrous to the *prestige* than unworthy the dignity of the profession, in which divergent opinions are pitted against each other in support or defence of particular views and interests, in a fashion at once distressing and demoralising. A court of justice is required to decide between the contradictory assertions of men who for the moment, perhaps, forget that their testimony is itself a judgment responsibly expressed. Every medical "opinion" is a judgment based on scientific conclusions, reached by scientific modes and trains of reasoning. When "opinions," thus presumably formed, are arrayed in aid of conflicting interests rather than justice, the effect is not to advance but to retard the progress of science in public esteem and to weaken its influence in courts of judicature. There is no more disheartening spectacle than that presented by the ranks of opposing witnesses called to give medical testimony in aid of plaintiff and defendant in a suit. The conflict in a criminal case is scarcely less to be deplored. We do not believe medical men consent to appear in a court except under a strong sense of duty, but when they so present themselves, it unfortunately too often happens that their motives are called in question. The certainty that this will happen may not, of course, deter an honest man from doing his duty. Meanwhile it is certain that, unless he can be assured of fair and even generous treatment at the hand of a Court disqualified for the task of correcting or even testing his opinions—in short, a tribunal which must perforce take them for what they are worth without presuming to impugn their integrity,—self-respecting men will shun the task of appearing where contumely and reproaches are made to cover the lack of that sort of intelligence which disdains to treat disrespectfully what it cannot understand. True wisdom hears before it condemns; and when the issue lies between technical assertions which appear incomprehensible, it defers judgment until the contradiction is explained. The remedy for all this confusion and grievance we have repeatedly pressed on public attention. It is simply the appointment of medical assessors to assist a lay court in forming an accurate judgment. Nothing would give so much confidence, or operate so effectually as a check on the presentation of hastily-formed opinions, as the knowledge that the medical witness practically stood at the bar of a medical tribunal. The provision for which a plea has so frequently been urged is not either difficult to make or so costly as to be out of the question. It has been too long delayed, and on purely frivolous grounds of objection. The interests of justice and science combine to make a speedy response to our reasonable demands expedient, and even indispensable.

THE more closely the provisions of the Public Health (Metropolis) Bill are studied the more clearly does its perfunctory character appear. This has been especially made manifest in the criticisms to which the Bill has been subjected by the Council of the Society of Medical Officers of Health. It is much to be regretted that this body, in the report which it has issued on the subject, has not taken a broader view of its duties with regard to it. It has limited its observations wholly to the clauses of the Bill which are new. But clearly it would have been of great advantage to those members of the Legislature who take an active interest in the matter, and to the public generally, to have known the views of the Council on the scope of the proposed consolidation in its purely sanitary aspects. As we have already pointed out, the omission from the Bill of existing provisions as to sewerage and drainage, and as to scavenging and cleansing, makes it very different from the Public Health Act, 1875, to which the preamble seems to assimilate it in character. It would have been very instructive to have had the opinion of the Council as to the probable effect of these omissions on the working of a consolidated Bill. The inconsistency of the omissions, however, must be obvious, seeing that the Bill is taken advantage of to obtain amendment of such details of local government as relate to the foundations of houses and the regulations of dairies.

The Council of the Society of Officers of Health take exception, first, to the omission of a confirming authority of the bye-laws relating to lodging-houses to be made under Section 39. They note also a like omission, as it seems to them, with reference to bye-laws to be made as to house-foundations and dairies. We are disposed to think that such provision is made in Section 89, but here it appears to be limited to bye-laws enforcing penalties, and we doubt with the Council (if this be the case) the sufficiency of such provision and the wisdom of making the clause as to confirmation so needlessly obscure, and of detaching it from its proper relations.

The Council next draw attention to the importation of the provisions of the Diseases Prevention Act of 1855 into the Bill. They observe that these provisions here appear in a new relation. Hitherto they have been used simply with regard to exceptional epidemics, such as cholera, but in this Bill they would appear as forming part of the means of dealing with ordinary epidemics. The Council have no objection to such an extension of the provisions which relate to speedy interment of the dead and house-to-house visitation, but they would have it appear clearly in the Bill whether such is the intention of the Government. We do not quite follow the observations of the Council on this, as they think, new aspect of the subject, for the same provisions appear in the Public Health Act, 1875, and seem to us to have similar relations in that Act to those here made the subject of comment. The question is one, however, which it is well to raise. The Council, moreover, object to the use of the word "endemic" in the clause, as applied to the metropolis. The Council here have been clearly unobservant of the gradual cultivation, under the auspices of the Local Government Board, in its Poor-law capacity, of purulent ophthalmia as a metropolitan endemic disease. The time may come when the extension of this formidable malady beyond the pauper schools of the metropolis will call for special measures, such as the provisions in question would meet.

The most important of the observations of the Council relate to the provisions of the Bill concerning hospitals (56–64). They reiterate a previously-expressed agreement with a conclusion of the managers of the Metropolitan Asylum District, that such hospital provision would be best made in a comprehensive and systematic manner by one central authority acting for the whole metropolis, and that "the administration of the infectious diseases hospitals,

regarded in the light of a sanitary provision for the advantage of the general population, should be completely dissevered from any relation with pauperism." The Bill provides for a further complication of this difficult question, by authorising combinations of local authorities apparently to facilitate this disseverance of the sanitary hospital provision from pauperism, and then, with curious ingenuity, proposes to render such combination unnecessary from a local administrative point of view, by authorising the managers of the Poor-law hospitals to contract to receive non-pauper patients into their hospitals on payment! This is a specimen of the statecraft which, according to the Premier, holds the health of the people to be the first consideration of the statesman.

The Council take exception to the proposal of the Bill to make the expenses of maintenance of a non-pauper patient in a hospital "a debt due from the patient to the local authority," without reference either to his ability to pay, or to the circumstances of his removal to hospital—for example, how far the removal was for the public object of preventing the extension of the disease. The Council further make the excellent suggestion, that with a view to encourage the use of hospitals as means of isolation, the gratuitous reception and treatment of any person in any hospital for infectious disease should (on the analogy of the Vaccination Act) be declared not to constitute pauper relief.

Exception is further taken to the limited scope of the bye-laws as to foundations of houses proposed in Clause 68; to the non-inclusion of the medical officer of health in Clause 82 as one of the officers of the local authority whose signature would authenticate notices issued under the Act; and, finally, the Council direct attention to the fact that Clause 92 apparently contemplates that the commissioner of police should supersede or interfere with the local authorities in the abatement of nuisances in lodging-houses—a most undesirable complication.

Whatever may be the difficulty of legislating for the congeries of local authorities and various local interests included in the metropolis, the essential matters for which legislation is needed, at least so far as public health questions are concerned, and the data which should govern such legislation, may be obtained with a facility and certainty unattainable elsewhere in the kingdom. But legislation such as that proposed in the present Bill would seem to be based on no higher data than the gossip of the clubs, so little does it manifest indications of the serious study which so grave a subject, affecting the interest of a vast population, involves.

No one who watched the last election at the Royal College of Surgeons, England, or who has since reflected upon its results, can have failed to be struck with the singular want of thought and consistency of a large number of the Fellows who assembled on the 5th inst., with the avowed object of electing three members of Council. In the Charter of 7th Vict., by which the order of Fellows was instituted, it is provided that all members of the Council shall be chosen from the Fellows, and that the right of electing members of Council shall belong exclusively to the body of the Fellows, and the mode in which the elections shall be conducted is tolerably clearly set forth. But unfortunately, College Charters are as powerless as Acts of Parliament to guarantee appreciation or intelligence in those who may be entrusted with electoral rights and privileges, and elections are always apt to go queerly. So it was with the last College election. A circular had been issued to nearly 1300 Fellows, convening a meeting "for the election of three Fellows into the Council." Only 280 of this number put in an appearance, and of these 65, or more than 23 per cent., stultified themselves by voting for only one instead of three of the five candidates. Of these plumpers Mr. ERICHSEN received 47·69 per cent., Mr. HOLMES 16·9 per cent., Mr. SAVORY 15·38 per cent., Mr. GAY 10·76 per cent., and Mr. ADAMS 9·23 per cent. It is unfortunate that whilst precautions exist to prevent Fellows from voting for more candidates than there are vacancies, no provision has been made to check the coalition of a number of voters to carry in a friend or favourite, by resorting to the system of plumping. Disregarding altogether its moral aspects, it cannot be denied that plumping at an election like that at the College of Surgeons is practically disadvantageous, and not unfrequently unjust. On the one hand, no useful or desirable object can be gained in this way which may not be attained by legitimate means, and, on the other hand, the fact cannot be ignored that the system of plumping is capable, under some conditions, of defeating the ends of right and justice by securing the election of incompetent or unworthy persons. It is no objection to say that hitherto the system has not worked injuriously, and that the good sense of the Fellows, prevailing over the evils of the system, has generally secured the election of good men. On Thursday week the Fellows, unwittingly we believe, but not the less effectually, not only declined to re-elect to the Council one of the most energetic, indefatigable, and unselfish of their number, but elected into the Council the only two members of the Court of Examiners who had not already a seat there. This is at least remarkably inconsistent. Seven years ago the Council, in compliance with the repeatedly expressed wish of the Fellows, resolved that not more than one-half of the examiners should be members of the Council; but through the election of Mr. SAVORY and Mr. HOLMES every member of the Court of Examiners will now be also a member of the Council, unless these gentlemen have pledged themselves to their supporters to resign forthwith their posts in the Court and on the Board of Examiners.

THE Medical Defence Association is to be congratulated on its first annual meeting and on the account which it was able to give of its stewardship in the year. There is no doubt that the operations of this body and of the East London Medical Defence (now the Medical Alliance) Association have done very much to revive in the public mind and in the profession the sense of the fact that the State regards the practice of medicine as a responsibility not to be undertaken except by those who give guarantees to the State of some fitness in the shape of proofs of medical education. The Apothecaries Act contemplates the punishment of all persons who give advice and medicines without

the licence of the Society or of some other body empowered by the State to give a licence to practise medicine. It is true that in the later Act—the Medical Act of 1858—the offence against the State, in the matter of medical practice, is made to consist, not in unlicensed persons practising medicine, but in their falsely using titles which convey to the public the notion that they are licensed practitioners. But though this may be considered as some concession to irregular pretenders to the art of healing, it must be remembered, first, that the Act of 1815 is still in force, and, secondly, that there has been an almost universal admission that the fortieth clause of the Medical Act is ridiculously weak and inadequate. Surely it cannot be that the State means with one hand to straiten the gates into the profession, and to make the passage of them to all students more costly and more anxious, and with the other to relax the laws which are meant to punish those who make light of disease by lightly undertaking its treatment. But this is really the effect of the Act of 1858. If anyone doubts this, let him look into the matter. He will see that the chief effect of the Medical Act is to add to the expensiveness of medical education, and to the severity of the examinations by which it is tested. He will see that the number of persons rejected as unfit to practise by the examining bodies is increasing year by year. We are not complaining of this. But is there to be no corresponding increase in the severity of the law against those persons who, with no special education, and conspicuously ignorant of medicine, assume medical functions? We cannot believe that the State will act with such onesided severity. There is no art in which the State has such vital interest as it has in that of medicine. We have a right to demand that it shall strengthen those laws which weakly permit the ignorant to try experiments on the sick, and that, as it has created bodies to exact high qualifications from those who seek to practise medicine legitimately, it will create a public prosecutor to punish those who practise it illegitimately. It is too bad to leave this work to the profession. And we suggest to the Medical Defence Associations, which have done admirable work, that they should add to their other demands this—the appointment of a public prosecutor, whose business it shall be to see that laws enacted in the interest of the State are kept.

M. FELTZ, to whose researches on the "intimate pathology" of septic matter we have before referred, has communicated to the Académie des Sciences a fresh series of experiments instituted with the object of confirming his previous observations, and of proving that putrefied, toxic blood contains no liquid or solid virus except the organised ferments.

Thirty grammes of very poisonous blood, mixed with 100 cubic centimetres of distilled water, were subjected to a heat of 80° Cent. for ten minutes, so as to solidify all the coagulable constituents. The liquid portion, separated by filtering, was rich in vibrios. It was then evaporated in vacuo to fifty cubic centimetres, and five cubic centimetres injected into two rabbits killed them in two or three days with all the symptoms of septicæmia. The same liquid was then filtered through a layer of cotton and charcoal; the filtrate was a clear, rose-coloured liquid, which contained neither bacteria, vibrios, nor moving granules. Six cubic centimetres of this solution were injected into the jugular vein of each of four rabbits without the slightest effect. M. FELTZ assumes from this that the existence of a soluble ferment or liquid virus is highly improbable. He does not, however, allude to the possible influence of the charcoal through which the liquid was filtered, and which may have destroyed the specific properties of a liquid virus, had such existed.

At the suggestion of CLAUDE BERNARD, he has made further observations on the degree in which the organised particles obey the law of gravitation, and, as has been asserted in the case of the virus of vaccinia and glanders, fall to the lowest strata of the liquids which hold them in suspension, and do not float in all parts of the liquid, as do cryptogamic ferments. Four or five cubic centimetres of putrefied blood reduced to a syrupy consistence, and possessing highly toxic qualities, were placed in each of four upright glasses, and covered with a layer of distilled water five centimetres high. In a fifth glass some distilled water was placed, rendered slightly alkaline by an ammoniacal salt. The five glasses were then protected from movement or disturbance for four days. At the end of that time five cubic centimetres, taken from the surface of each glass, were injected into five rabbits; all of which died in a few days, excepting the rabbit into which alkaline water had been injected. The surface of the liquid in the glasses in which the blood had been placed contained an enormous quantity of "organised ferments," while the alkaline water contained only some atmospheric dust. In another experiment two quantities of diluted toxic blood, prepared as above described, were placed in tall narrow test-tubes, and kept free from all disturbance, together with a third similar tube containing alkaline distilled water. Solid inorganic grains should sink to the bottom of the test-tube, and the superficial layers of the solution, if the inorganic granules are the vehicles of contagion (as M. CHAUVEAU asserts with regard to vaccine virus), should be innocuous. But microscopical examination revealed abundant vibrios in the superficial layers of the dilution, and experiment showed that these superficial layers were as toxic as the deeper layers, since four rabbits inoculated from different layers died very rapidly of septicæmia, while one in which the superficial layer of the alkaline water was injected, remained unaffected.

The conclusions drawn by M. FELTZ are, that there are no infectious ferments of the nature of diastase in toxic blood, nor any liquid virus, nor any solid unorganised virus; that a heat of 150° Centigrade, which destroys all toxic quality, acts only on the organised ferments, the true septic agents.

THE annual meeting of the Society of Medical Officers of Health was held at the Scottish Corporation Hall on Wednesday last. After the usual routine business, Dr. Thomas Stevenson, medical officer of health for St. Pancras, was unanimously elected President for the ensuing year, and a very cordial vote of thanks was accorded to Dr. Buchanan on his retirement from the chair. Mr. Liddle was re-elected treasurer, and Drs. Vines and Corfield, secretaries. The balance in hand is satisfactory, and it is proposed to inaugurate the winter session by a social dinner.

Annotations.

"Ne quid nimis."

THE HOSPITAL SUNDAY FUND.

IT is still too soon to say whether the Hospital Sunday Fund of this year will reach a higher amount than in previous years. A great deal of extra trouble was taken by the General Purposes Committee, and if the result is not a larger collection it must be due either to the continued depression of trade, which is alleged by the clergymen of many contributing churches whose collections are less than last year, to be the explanation, or to the fact that the council has not yet perfectly succeeded in exciting the earnestness of the churches. There is something curious in the annual variations of the collection in the same church. These could only be understood by knowing the changing circumstances of each individual congregation. The receipts from Quebec Chapel were £321, as compared with £356 last year; Union Chapel, Islington, £78, as compared with £96 at the previous collection; St. Andrews, Wells-street, £133, as compared with £175; All Souls, Langham-place, £62, against £91; St. James's, Piccadilly, £151, against £183; Paddington Parish Church, £175, against £242; Oratory, Brompton, £30, against £48; St. Jude's, South Kensington, £132, against £236. On the other hand, a few churches have done better this year than last. St. Paul's, Onslow-square, sends £177, as compared with £101; Kensington Parish Church, £312, against £241; St. Margaret's, Westminster, £145, against £59; St. George's, Hanover-square, £151, against £98. The largest collection of the year is that of St. Peter's, Eaton-square, £425, against £420 last year. Next to this the highest is that of St. Stephens, Westbourne-park, £420. These are noble collections, which put to shame those of the cathedrals of London. Many collections have yet to be received, including those from the Jewish synagogues, about fifty from the Church of England, and sixty from larger Nonconformist churches. It is to be hoped that congregations will use dispatch now in forwarding their collections, and that there will not be so much delay on the part of the Distributing Committee as on former occasions. If we might give one word of advice to this body it would be to deal generously with charities that have suffered by the institution of Hospital Sunday. There are very few such, and they may be small, but they have a power of generating local opposition to the movement out of proportion to their importance, and there is no reason why every respectable medical charity should not be a gainer by this movement which so happily conciliates and combines the churches once a year.

HONOURS TO MEDICAL OFFICERS.

IN *The Times* of July 3rd, Mr. Hardy, Secretary for War, is thus reported:—"Would it be believed that the medical men had obtained a larger proportion of honours than they were strictly entitled to? The reason why they would obtain no more honours was, that they had absorbed them already. The War Department was advised on the whole question by medical men, and if the medical profession in the army were crushed it was with the weight of the Medical Department."

The above remarkable statement occurs in the debate on the order of the day (July 2nd) for going into committee of supply, and is in answer to some pertinent remarks of Dr. Lush concerning the paucity of candidates for the Medical Department of the Army. We are ignorant of what iron rule or law governs or limits the number of honours distributed to any regiment or corps of officers in the army, and are therefore unable authoritatively to contradict the statement of the Secretary for War; but, in the absence of such positive knowledge, we have thought it not without interest to turn to Hart's Army List for information.

We will take a scientific corps, the Engineers, for example, and what do we find? This admirable regiment numbers six hundred and twenty officers, of whom exactly thirty-six are decorated—viz., five are Knights of the Bath, twenty-four Companions of the Bath, three are Knights of St. Michael and St. George, and three Companions of the same order, and one a simple Knight of an unmentioned order. The Medical Corps numbers eight hundred and sixty-seven members, of whom exactly eleven are decorated—two are Knights of the Bath, and nine are Companions of the same order. There are no members of the Order of St. Michael and St. George. The answer to the above, if any answer is possible, we can only imagine to be the oft-repeated but very silly remark that the doctors are "non-combatants." In the first place, this remark is an absurdity on the face of it; it is not the duty of officers, according to the Duke of Wellington, to be in the strict sense of the term combatant; their duty is to lead and direct combatants. But we have purposely taken the Engineers, a scientific corps, because they are, if possible—and we must be understood to be speaking with all respect of the regiment, for which we have a profound admiration,—less combatant or more "non-combatant" than the doctors. For instance, we find, of the 867 doctors, no less than 307 have been in action, and have their war services recorded, and of some of them these records are no less remarkable than honourable; whilst of the Engineers only 156 have seen war, and, if we exclude the officers of the Indian Engineers now incorporated with the regiment, only half that number.

There is another circumstance which bears out our view. The Victoria Cross, that dearly-coveted honour, only given for heroic conduct in the field, is worn by five medical officers, whilst four only have been gained by the Engineers. But there is a curious feature attending the decoration of the Victoria Cross. Every engineer officer who has won it has also been additionally decorated with the Bath, whilst of the five medical officers, only one—Sir Anthony Dickson Home—has received the Bath; the other four, though of field rank, and thus eligible, have received neither Knighthood nor Companionship of this noble order!

The other scientific corps—the Artillery—numbers 900 and odd officers, of whom 62 are decorated; but as this distinguished regiment retains amongst its officers veterans of sixty and seventy years' service, who served in the Peninsula and at Waterloo, and who are decorated for these services, any comparison is almost impossible, medical officers of that date having long since been shelved. We might point out, however, that in the Artillery only two officers are wearers of the Victoria Cross. So much for the "non-combatant" answer.

If we turn to the honours dealt out to the Indian Medical Service, the comparison is even more startling. Of the seven hundred and forty medical officers serving Her Majesty in India, exactly *four* have received decorations. Two are Companions of the Bath, and two are Companions of the Star of India—this being a service to which, as we pointed out in a recent number of THE LANCET, on the occasion of the *Gazette* of the Star of India, we owe our first possessions in Bengal.

And yet the Secretary of War informs the House of Commons, and through it the nation, that "medical men have obtained a larger proportion of honours than they are strictly entitled to." If such is the case, then is the medical service of the Crown in a worse state than we had any idea of, and its unpopularity is not far to seek.

We can scarcely believe that this state of things is owing, as Mr. Hardy states, to the advice of the heads of the department. We think he must see, if he will calmly consider the facts we have placed before him, that there must be something radically wrong in any rule or regulation which calls upon gentlemen to undergo the same labours and share the same perils, but denies them an adequate share of the same honours. If any law exists whereby it can be ruled that the honours at present in the possession of the medical services are in a "larger proportion than they are strictly entitled to," it would be an act of statesmanship becoming the present Secretary for War to see the rule altered as soon as possible.

CORONERS AND CAUSES OF DEATH.

HALF A CENTURY ago, when mortality statistics were unknown in England, and few believed in their value, such verdicts as "Died by the visitation of God," "Died from natural causes," "Sudden death," "Accidentally killed," might be accepted in fulfilment of the popular notion of the object of coroners' inquests. At the present time, however, long since the establishment of a national Death Register, which is maintained at a considerable public expense, and affords the basis of many official Blue-books and periodical publications, it ought no longer to be tolerated that such verdicts as those we have enumerated should be accepted as the result of that expensive process, a coroner's inquest, and be allowed to disfigure our Death Register and to vitiate our national mortality statistics. Section 16 of the Births and Deaths Registration Act of 1874 enacts that at each inquest the jury shall inquire, and the coroner certify, as to the particulars required to be registered concerning the death, among which the cause of death is specially mentioned. It cannot, however, be maintained that the words "natural causes" or "visitation of God" afford even a clue to the cause of death; they convey only the negative information that the death was not due to violence. It surely is not unreasonable to expect information of a more positive character in return for the three or four pounds which constitute the average cost of an inquest. It is easy, moreover, to see that some positive and trustworthy evidence of the real cause of death is in many cases the only satisfactory means of ascertaining whether the death really be due to natural or unnatural causes. Very recently, in Norwich, an infant was taken to the surgery of a medical practitioner, who happens also to be the registrar of births and deaths. The infant was found to be suffering from opium-poisoning, and, in spite of treatment, died. The medical practitioner very properly refused to give a medical certificate, which resulted in an inquest being held. At the inquest, however, no medical evidence was called, and a verdict of "Death from natural causes" was returned. It would be difficult to urge stronger evidence of the present unsatisfactory state of the law regulating coroners and their duties. Not only is this causeless verdict entered upon the Norwich Death Register, to the manifest detriment of the mortality statistics of that city, but even its negative meaning appears to be false, as, if the medical practitioner were right in diagnosing opium-poisoning, the death of the infant can in no sense be said to have been due to "natural causes." On referring to the Norwich Death Register for 1876, it appears that 117 inquests were registered in that city during the year, showing a proportion of 6·4 per cent. of the total deaths, differing but slightly from the average proportion in the twenty largest English towns. In 73, or 62 per cent., of the cases, the deaths were referred to natural causes; and in 44, or 38 per cent., to different forms of violence. In 39 of the 73 cases of death from natural causes, the cause was more or less definitely described in the coroner's certificate; but in 34 instances, or 29 per cent. of the total inquests registered in the year, the verdict returned, certified by the coroner, and inserted in the Death Register, was simply "Natural causes." In each of these cases the jury omitted to inquire into, and the coroner to certify, the cause of death, in accordance with the 16th section of the Births and Deaths Registration Act of 1874; for the "cause of death" is undoubtedly one of the "particulars required to be registered concerning the death." The reported particulars relating to the above-mentioned death of an infant prove that the time has come for some legislative regulation of the almost irresponsible discretion now exercised by coroners. While the power of the coroner to hold inquests whenever he deems it desirable should not lightly be interfered with, nothing but advantage could be derived from instructions which would secure inquests being held in all cases where no satisfactory evidence of the cause of death is available, and which would secure uniformity and satisfactory results from the performance of the duties of coroners. We much regret to say that Norwich does not by any means stand alone in regard to verdicts such as that on which we have now commented.

CHARCOT AND PITRES ON CEREBRAL LOCALISATION.

THE new journal, *Revue Mensuelle de Médecine et de Chirurgie*, has, in its several numbers, contained portions of a paper, by Charcot and Pitres, upon the subject of localisation of function in the cerebral cortex. The paper is founded upon a large number of clinical observations, culled from various sources, and they possess a special interest at present, when Dr. Brown-Séquard is endeavouring to disprove the fact of localisation, also by an appeal to clinical records. The conclusions arrived at by Charcot and Pitres are summed up in the June number of the journal. They believe that the cortex cerebri of man is not functionally homogeneous; that only a portion of the convolutions is devoted to voluntary movements. This "cortical motor zone" comprises the paracentral lobule, the ascending frontal and ascending parietal convolutions, and perhaps also the base of the frontal convolutions. All cortical lesions, whatever their extent, seated outside this motor zone, are latent in the direction of disturbances of motility; that is to say, they determine neither palsies nor convulsions. They are never accompanied by secondary degenerations of the spinal cord. On the other hand, destructive lesions, even of very limited extent, attacking directly or indirectly the motor zone, necessarily produce disorders of voluntary movement. If the lesion be abrupt—if it destroy at once a great part of the "cortical motor zone," it gives rise to a sudden complete hemiplegia, accompanied later by secondary degenerations of the spinal cord and slow contraction of the paralysed muscles; thus completely resembling ordinary hemiplegia from central causes. If the lesion be limited to a restricted portion of the cortical motor zone, it gives rise to monoplegiæ (suppression of functions), and to convulsions taking usually the form studied under the name of partial epilepsy (phenomena of irritation). At the end of a certain time, these destructive lesions of the motor zone, even when very limited, determine a secondary degeneration, which descends through the cerebral peduncle and the medulla oblongata into the lateral column of the opposite side of the spinal cord. The study of paralysis and convulsions of cortical origin demonstrates that the cortical motor centres for the two limbs of the opposite side are situated in the paracentral lobule and in the superior two-thirds of the ascending convolutions, and that the centres for the movements of the anterior part of the face are placed in the lower third of the ascending convolutions

in the neighbourhood of the fissure of Sylvius. It is very probable that the centre for isolated movements of the upper limb is seated in the middle third of the ascending frontal convolution of the opposite side. The summary concludes with the statement that as yet there is no proof of the precise situation of the cortical motor centres for movements of the neck, eyes, or eyelids.

CONSTANT WATER-SUPPLY FOR THE METROPOLIS.

IT was hoped that under the provisions of the Metropolis Water Act few practical difficulties would stand in the way of obtaining a constant supply of water whenever the local authority agreed to require such a provision from the water company supplying the district. Facts, however, are against this sanguine view of that legislative effort. It appears that some time ago the Shoreditch Vestry came to the conclusion that it would be desirable to have certain portions of Shoreditch parish supplied on the constant system. The New River Company, when applied to, decided that they should like to be required to lay on a constant supply. The Metropolitan Board of Works, however, for some inscrutable reason, refused to accede to the wishes of the vestry, and it then became necessary to invoke the aid of the Local Government Board, which the vestry clerk did on April 11th last. After a delay of little short of three months, the Shoreditch Vestry lately received a reply from the Local Government Board, which was indeed no reply, as it asked for further information, and displayed such complete ignorance of the facts and points of the case as seriously to disturb the gravity of the vestry at a recent meeting. It appears more than probable that further considerable delay will take place before these portions of Shoreditch will receive their coveted constant supply, which the vestry has declared desirable, and the New River Company seem perfectly willing to lay on. Early in the year the vestry began to ask for this boon, and, although there is no open opposition, there seems little chance of its being granted during the present summer. There is something absolutely grotesque about the utter failure of the machinery provided by this Metropolis Water Act for the purpose of securing to those districts in which it may be desired a constant water-supply.

THE SANITARY INSTITUTE OF GREAT BRITAIN.

ASSOCIATIONS, having as their object the prevention of disease and the maintenance of health, increase and multiply day by day. This institute, the foundations of which appear to be laid with very good vital material, had a sort of inauguration gathering on the 5th in the theatre of the Royal Institution. The occasion was employed both to give a welcome to Professor M. A. Chevallier, President of the Société Française d'Hygiène, and other distinguished foreign sanitarians, and to hear an address from Dr. B. W. Richardson on the political, medical, and social aspects of future sanitary science. The chair was taken by the Duke of Northumberland. The lecturer, in reviewing the actual progress of sanitation in the United Kingdom, commented at length, and very favourably, on the Public Health Act, 1875, which, according to his opinion, was "admirably constructed," and though much of it was of a permissive nature, "its working would in a few years remove a great amount of disease from the land, and prevent invasion by diseases of an epidemic and spreading type." But inasmuch as pure water, pure food, and pure air were three sanitary requisites, Dr. Richardson urged emphatically the foundation of a Health Department of the State, exclusively devoted to the health of the people. It was utterly hopeless to trust to companies in matters of such vital moment as the supply of water; and though by recent legislation we had some security for obtaining fresh animal food, and foods freed of foreign substances and adulterations, as yet their inspection was very superficial, and still far inferior to that practised so successfully for many ages by the Jews. In the matter of pure air there was no practical legislation of any sort or kind, although the atmosphere of our large towns was charged with smoke and impurity, and the air of our great factories was charged with dusts which destroy life with the precision of a deadly aim. The closing part of this very able address was devoted to demonstrating the fact that the future and satisfactory progress of sanitation must in a very great degree depend upon the women of this country. When sickness of any kind prevails they are constantly at hand. "The men of the house," as Dr. Richardson says, "come and go; know little of the ins and outs of anything domestic; are guided by what they are told, and are practically of no assistance whatever. The women are conversant with every nook of the dwelling from basement to roof, and on their knowledge, wisdom, patience, and skill the physician rests his hopes." The founders of the Sanitary Institute had therefore judged well and wisely when they determined to include sanitarians of both sexes as working associates. The foreign strangers were entertained at dinner in the evening at the Grosvenor Gallery Restaurant, under the chairmanship of Dr. Richardson.

MALT AS AN ANTISCORBUTIC.

CONSIDERING the exhaustive nature of the evidence produced before the Scurvy Inquiry Committee as to the relative merits of different antiscorbutic articles of diet, it is surprising no reference was made to the excellent antiscorbutic properties of malt. This property was known and fully valued by the Elizabethan mariners, for we learn from Hakluyt that hogsheads of ale were considered important adjuncts in victualling a ship in those days. Glauber, the celebrated chemist, in a tract, entitled "Consolation for Mariners," written about the beginning of the seventeenth century, strongly advocates the claims of malt, or sweet wort, as a preventive and a remedy for scurvy. It is probable, in these degenerate days of light bitter ales, beer sufficiently good to stand a prolonged sea voyage and changes of climate could not be supplied to shipowners at rates moderate enough to enable them to issue it as a daily ration to their crews. The abundant supply of bottled ale and stout, which is generally to be found in the "cabin," is perhaps one of the chief reasons why the officers on board scurvy-stricken ships are always exempt from the disease. But if good ale is too expensive an article to be supplied to the crew, the same cannot be urged against the various preparations of malt. Dr. Ralfe, who has recently tried malt extract in a case of scurvy under his care at the Seamen's Hospital, found the patient improved considerably from its administration, in spite of his being kept on strictly "scorbutic" diet (*vide* THE LANCET, June 16, p. 870). Although malt extract is inferior as an antiscorbutic to lime-juice and potato, still its powers in this respect are undoubtedly very high, and it would be a most useful addition to the otherwise scorbutic dietary of the common sailor. Malt extract is extremely palatable, and persons who are in the habit of using it get to like it exceedingly. An infusion of malt, to which perhaps a little extract of hop is added, would, we are sure, speedily become a favourite brew in the forecastle. Malt extract is very portable, and can be easily packed—a great advantage to travellers, who could carry it either in jars in the liquid state, or in the solid form as compressed malt in blocks, or made up into lozenges. With

reference to the latter, it may be interesting to state that this form of administering an antiscorbutic is no new suggestion. Dr. Thomas Willis, the great anatomist and physician, in a tract on Scurvy, printed in 1681, notices that "orange tablets" were sold in the apothecaries' shops at Oxford as a cure for this disease, and he himself gives a receipt for making "the more delicate tablets or troches," which, for the sake of those curious in such matters, we give in full. "Take of the powder of Winteran Bark, of the eyes of crabs, each one drachm and a half; of the powder of pearls, half a drachm; of the finest sugar, six ounces; dissolved in as much water of earth worms as will suffice, and boyled up to the height of tablets; add of the spirits of scurvy-grass two drachms; of which make lozenges or tablets, each weighing half a drachm. Take about one drachm twice a day."

SCURVY AND THE BOARD OF TRADE.

A VESSEL named the *Ocean Monarch* arrived at Falmouth some few days ago from Mauritius, with several cases of scurvy on board. It appears that this disease is still somewhat rife in our mercantile marine, and that the inquiries ordered by the Board of Trade are inefficient and insufficient, both in their machinery and general organisation. We are informed that as much as six or seven days frequently elapse between the arrival of the ship and the issuing of the official order for an inquiry. In this interval the men have been paid off, the captain has gone to his home, and so the witnesses are scattered all over the kingdom, and the investigation proves abortive. As regards the Port of London—and, indeed, all the outports—the following plan appears sufficiently simple and workable:—When the fact of scurvy having occurred is announced, let an inquiry be ordered immediately at the Mercantile Marine Office, either before or on the day when the ship pays off her crew. The witnesses are then secured at a minimum of expense, the medical inspector has close at hand a very able nautical colleague in the person of the mercantile marine superintendent, the vessel can be afterwards visited officially, and so materials for a satisfactory report collected. Public attention has lately been so much directed to the fact that this disease is eminently preventable that the officials at the Board of Trade cannot afford to rest upon their oars, but are bound to keep pace with the cheeseparing proclivities of shipowners, the equally dishonest "dodges" of provision merchants, and the general carelessness of shipmasters in the administration of lime-juice at sea.

MIDWIFERY BY UNQUALIFIED ASSISTANTS.

IT is desirable, in the interest both of the public and the profession, and apart from all one-sided feeling, to extract the true lessons from the late action against Mr. Batteson. We rejoice heartily that the action ended as it did, and that medical practitioners carrying on laborious practices in the east of London or anywhere else are not likely to have, in addition to all their worries, the fear of an unreasonable prosecution hanging over their heads. A large midwifery practice is exacting enough, without this addition to its evils. Every medical man taking more midwifery cases than he can himself attend should do so very reluctantly. It cannot be denied that a medical man accepting a midwifery engagement accepts personally the responsibility of it, and if the result is disastrous, the reputation of the profession suffers. Midwifery is a serious branch of practice, and to accept a large amount of midwifery with the intention of handing a large part of it over to an unqualified assistant, is to sanction unqualified practice in a way which no educated practitioner can justify. We hope, then, that medical men will henceforth prefer to reduce the number of their cases than leave any considerable proportion of them to be attended by unqualified assistants. The worst effect of such a resolution would be to transfer a few of their cases to practitioners of less standing than themselves. This would be good for the profession. And it would certainly be as good for the practitioner the number of whose cases was thus reduced. There is nothing surer than that attendance on a large number of midwifery cases is most exhausting and injurious, and that one of the first things that a practitioner should do who values his life and his reputation, is to learn to say "no" to a certain number of applicants for his obstetric services. The least objectionable way of doing this is to raise the fees, not extravagantly, but judiciously. It is not enough to say "I cannot attend you, but my assistant will." This does not exonerate the practitioner. He cannot escape from an unpleasant feeling of responsibility, both to the patient who believes that virtually she is coming under his care, and to the profession, which has a right to ask its members to give no sanction to unqualified practice.

HEALTH OF BOULOGNE-SUR-MER.

SOME six to eight thousand English seek health and recreation every year at Boulogne-sur-Mer, and yet the death-rate of that town is about as high as that of London. In a special report on the sanitary condition of this resort (see THE LANCET of Sept. 30th, 1876), we pointed out that the water-supply, amounting to only four gallons per head per diem, was altogether insufficient; that the sewers could not be flushed, nor the closets cleaned; that in some quarters there were actually no closets at all, the inhabitants employing ordinary vases, which they empty in the street in front of their houses. Nor is there any method employed to disinfect rooms where fever patients have lived. In the course, however, of these inquiries it was often suggested by persons interested in the welfare of the town, that we had selected an unfavourable moment for the publication of such a report, as Boulogne was in a state of transition, and would in a short time boast of perfect sewerage and water-supply. Under these circumstances we have taken special pains to ascertain whether schemes then broached are now at least in course of execution. The season will soon be at its height; Boulogne is rapidly filling, and we should have been glad to remove some of the unpleasant impressions produced by the report we issued last year. We are, on the contrary, unfortunately compelled to reiterate our warning, and must express our indignation at the fact that nothing has been done to improve either the drainage or water-supply. It is time that Englishmen, who contribute so largely to the prosperity of the place, should protest against a neglect that literally endangers their lives. An English sea-side resort would soon be abandoned if the local authorities showed equal apathy concerning the welfare and safety of visitors.

SUICIDE IN CHRIST'S HOSPITAL SCHOOL.

THE melancholy suicide of a boy at Christ's Hospital School calls for a searching inquiry. When the head master of a public school professes his conviction that if any "terrorism" existed in the establishment he would be likely to hear of it, there is too much reason to believe that the institution concerning which this ingenuous impression prevails is not under close supervision. Probably, a head master is the last person to whose knowledge information of terrorism is likely to come! The sort of tyranny exercised by monitors and elder pupils could not be carried on unless the head master was kept in ignorance, and the fact

that the head master of this school has not detected its existence is, of itself, tolerably strong evidence that there is need of inquiry. Boys just entering on their 'teens do not gravitate towards suicide as an escape from their sorrows if they have been properly brought up. The juvenile branch of this establishment should be overhauled, as well as that to which this boy had recently been transferred. It may happen that he was not properly prepared for the life upon which he had just entered. Either of two conjectures is permissible in the absence of precise information. The juvenile school may have been so conducted that he looked forward to relief at the London establishment, and, being disappointed, succumbed to despair; or, perhaps, the system of training for young children is so lax that the discipline of the major institution appeared oppressive. We do not assert that either supposition is accurate, but the case is so painfully interesting that nothing short of a complete investigation can suffice to allay public anxiety. It is barely conceivable that the boy was "insane" in any true sense of the term, and it is hard to believe that, being reasonably sound of mind and healthy in body, the deceased essayed to escape from ordinary harsh usage, or chose death to the chances of self-vindication. The allegation that the boy was "bad" is ridiculous as an explanation of his suicide. If he was "bad," that is a strong reason why especial care should have been taken to prevent his further demoralisation by the unkind treatment of urchins little older than himself. We need to be satisfied that this historic school is not drifting into a routine mismanagement, cultivated chiefly as a "show" charity, and rapidly losing the prestige it enjoyed in times when there was less anxiety to make out a good case for "endowed" institutions, and particularly for those devoted to educational purposes under the ægis of the civic corporation with its prosperous guilds.

THE PERILS OF ICES.

A FEW days ago the daily papers contained an account of an inquest upon a man, a cook at a restaurant, who, while greatly heated, swallowed a large quantity of ices, complained afterwards of feeling ill, and died next day with, as the post-mortem examination showed, inflammation of the lungs. It would be too much to assume that the ices were the cause of the pneumonia, but it is equally unjustifiable to acquit them of all share in its production. It is difficult to believe that the application of severe cold to internal viscera, situated, as the stomach and œsophagus are, adjacent to vital organs, and to equally vital sympathetic centres, can be less injurious than the application of severe cold to the skin. The ice may act by the local abstraction of heat from the lungs or the heart itself, or still more probably by a reflex effect through the nervous system. Who does not know the startling pain in the frontal sinuses which an after-dinner ice may cause? And the reflex effect which is felt here as pain may, in other organs, and in morbid states of system, give rise to much more grave tissue changes. The evil effect of swallowing a large quantity of cold water while the body is greatly heated is popularly recognised; and whatever harm a large quantity of cold water may do, a much smaller quantity of ice can effect. Hence hardly a summer passes without instances occurring of grave or fatal illness succeeding, and no doubt in part due to, an indiscriminate relief of thirst by ices.

But this is not all their ill effect. If ice be placed on the back of the hand for a short time, the skin, first anæmic, rapidly becomes and remains for a long time reddened, congested. That which can be seen in the skin must happen in the stomach. Such congestion is different from the healthy congestion which accompanies functional excitement. The secretion of the gastric juice, the function of the stomach, is interfered with by it, and digestion is consequently hindered indirectly and directly by the lowered temperature of the stomach contents, and ultimately the occurrence of chronic gastritis is favoured, if not caused. With this congestion the thirst which prompted the indulgence returns in doubled degree, and the relief gained is found to have been dearly purchased. Those who have charge of the health of the community should be alive to and insist upon the dangers which attend the excessive consumption of ices.

INFANTILE SUMMER DIARRHŒA.

THE hot weather which prevailed during the greater part of June resulted in the commencement of the usual epidemic of infantile summer diarrhœa. The deaths referred to diarrhœa within registration London, which during the five weeks ending June 30th, steadily increased from 13 to 50, further rose to 96 in the first seven days of July, notwithstanding the cool temperature which prevailed during that week. These 96 included no less than 82 of infants under one year of age; 32 occurred in the East, 22 in the North, and 21 in the South groups of registration districts. The annual death-rate from diarrhœa averaged 1·4 per 1000 persons living in the whole of London, and ranged from 1·0 in the South to 2·5 in the East groups of districts. Notwithstanding the recent rapid increase in the fatal cases of diarrhœa, the Registrar-General points out that the 96 registered last week were 34 below the corrected average number in the corresponding week of the last ten years. Diarrhœa fatality usually commences in London at an earlier date than in most of the nineteen large provincial towns dealt with in the Weekly Return. During the first week in July the annual death-rate from diarrhœa, which was equal to 1·4 per 1000 in London, as above stated, did not exceed 0·9 in the nineteen other large towns. Infantile summer diarrhœa, as well as most other forms of excessive infantile mortality, is due about equally to the ignorance and neglect of parents, and to the overcrowding, bad ventilation, and uncleanliness of so large a portion of the houses inhabited by the working classes. There is a continual effort on the part of sanitary authorities to disclaim all responsibility for the conditions which produce the excessive fatality of summer diarrhœa in urban populations, and in fact for excessive infant mortality in general. We hope, however, that a larger view is gradually being taken of the meaning of the term "sanitary condition," and hence of the responsibilities of sanitary authorities. If sanitary authorities could be induced to adopt a bolder and a more disinterested line of action with regard to the owners of small tenemented properties, sanitary progress in London, and in other large towns, would soon become an evident fact.

CORONER'S JURIES.

THE coroner's court question, as a whole, fares badly at the hands of the Legislature. There is, however, one matter in regard to which improvement would not be difficult. An order from the central authority—whatever that may be under the new dispensation of confused law and equity—would probably suffice to bring about some greater attention to the selection of jurymen. No doubt the summoning officers are poorly paid, and it would be vain to expect any marked proof of their intelligence, but it might be possible to secure at least a little variety in the lists, and such general caution as would prevent the return of ridiculous verdicts. There is abundant room for improvement in the efficiency of those who preside over these courts of inquiry, but the need of some prompt change in the character of jurymen is even more urgent. If juries exhibited a larger amount of that most rare commodity—common sense—

coroners might be stirred to emulate their intelligence. We commend this indirect but not unpromising mode of working a regeneration to the consideration of those to whom it may belong to regulate the proceedings of summoning officers. By a reasonable scale of pay and more sagacity in selection, ensure better juries, empannelled to inquire "the cause of death," and instead of the brainless and incomprehensible returns too commonly made by these courts we may at once obtain reasonable judgments, and in process of time, perhaps, coroners, finding their juries no longer either mere puppets or obstructives, will develop the tact and knowledge necessary to conduct their important deliberations with enough dignity to command respect and so much wisdom as to inspire confidence. It is vain to expect coroner's juries will be made efficient while the fees for attendance are so small as to afford no recompense for the time expended in public duty, but rather to add insult to the injury of being required to attend.

HOSPITALS FOR THE WELL-TO-DO.

A PUBLIC meeting was held at the Mansion House on June 27th, under the presidency of the Lord Mayor, to consider the propriety of establishing such hospitals in various districts for private patients who can afford to pay for their accommodation. After a statement by Mr. Burdett as to the apparent necessity for such accommodation, resolutions in their support were moved and supported by Mr. Walter, M.P., Dr. Risdon Bennett, Sir Rutherford Alcock, Monsignor Capel, Mr. Jonathan Hutchinson, Sir Francis Hicks, and others. A committee, empowered to take such steps as they might consider desirable to fulfil the objects mentioned in the resolutions, was appointed.

It will be very difficult, we conceive, to carry out the scheme in such a way as to avoid making it a mere speculation on the one hand or a private charity on the other; but we trust that means will be found to avoid both these extremes, and to supply an undoubted want. The best guarantee both for the public and the promoters will be thorough publicity and the selection of men to form the committee to whom the public can look with confidence. At present the scheme is in embryo; the precise form it is to take will be decided, we suppose, by the committee now appointed, and we shall hope soon to hear further details as to the precise plan of operations proposed. Till then any further criticisms and suggestions would be premature.

BATHING AND DROWNING.

THE last few weekly returns of the Registrar-General bear record of the usual loss of life by drowning which annually occurs when the bathing season comes round. Within registration London no less than 47 deaths from drowning were registered during the four weeks ending 7th inst., including 22 of children under 20 years of age. This number exceeded by 12 (equal to 34 per cent.) the average number in the corresponding period of the last ten years, after correction for increase of population. This marked increase in the fatal drowning cases is probably partly due to the hot weather which prevailed during a great part of June, for the number of bathers is directly dependent upon the temperature; there can be but little doubt, however, that in recent years the number of bathers among the working-classes has rapidly increased, whereas few facilities for safe bathing have been provided, and very little has been done in the way of general and systematic instruction in swimming. The natural result is a steady increase in the number of deaths from drowning. The sanitary and physical benefits derived from bathing are undoubted, and yet safe and decent open-air bathing is possible in but few places within the metropolis. Most of the cases of drowning occur in places where bathing is forbidden and bathers are trespassers, but the very persistence with which bathing is carried on in the face of such difficulties should teach us that the provision of safe and convenient facilities for the healthful practice is a public duty which has been too long neglected.

ST. BARTHOLOMEW'S HOSPITAL.

SIR SYDNEY WATERLOW, as treasurer of St. Bartholomew's, is displaying that energy and business faculty which in so many other fields have characterised him. A long controversy between the governors of the hospital and the parish of Christchurch, Newgate-street—the very nature of which takes us far back into history—and which has long been the subject of a lawsuit, has been amicably settled by compromise, the inhabitants agreeing to pay to the hospital £1200 a year for the next five years, £1800 a year for the following five, and thereafter £2400 a year for ever. This seems a large tax, but it is far short of 2*s.* 6*d.* in the pound, the great tithe to which the governors are entitled under their charter from Henry VIII. Sir Sydney, too, has just got the assent of the governors of the hospital to a reconstruction of the theatre, museum, and library of the medical school, and to the creation of other accommodation for the education and instruction of students. This undertaking will cost over £50,000, towards which £750 per annum is to be contributed by the professors and teachers out of school fees. But as the school is now the largest in the kingdom, except, perhaps, that of Edinburgh University, as the number of pupils is increasing rapidly, and as the wealth of the hospital is enormous and likely to be increased, it is good policy to spend money in adapting the school to the wants of modern times. We hope the money will not be all spent in mere bricks and mortar, which only go a short way towards providing suitable laboratories for the purposes of a medical school.

SANITATION IN PARIS.

THE leading medical professors, practitioners, &c., of Paris are decidedly awaking to the necessity of sanitary reform. We mentioned, a few weeks ago, the formation of the Société Française d'Hygiène, and now we have received the regulations, inaugural address, &c., of an association entitled the Society of Public Medicine and Professional Hygiene. The management of this new institution has been entrusted to Dr. Bouchardat, professor of Hygiene at the Paris Faculty; Dr. Léon Colin, lecturer on Epidemics; M. E. Trélat, director of the School of Architecture, and professor of the Conservatoire des Arts et Métiers; Dr. O. du Mesnil and Dr. Coudereau, members of the Government Committee on Unwholesome Dwellings; and others. The long list of adherents also includes several well-known names, notably Dr. Ball and Béchard, professors of the Paris Faculty; M. Boulay, of the Institute; Dr. Delpech; Dr. Feigneaux, editor of *l'Art Médical*, of Brussels; the editors of several French medical papers; Dr. Wurtz; and Dr. Fauvel, Inspector-General of the Sanitary Services under the control of the Minister of Agriculture and Commerce. Prominent naval and military doctors, and several engineers, professors of chemistry, and architects—among whom we should not omit to mention so well-known a name as that of M. Viollet-le-Duc—swell the formidable list of subscribers, and are sufficient in themselves to demonstrate the importance and influence of the movement. The Society is divided into six sections, which will study respectively all that relates to the influence of climates on health; epidemics, including police inspection and international hygiene; private hygiene; public hygiene; professional hygiene and

statistics. Dr. Lacassagne, 30, Rue d'Ulm, is the secretary of this sanitary institution, and in welcoming its advent we can only suggest that, as its programme is so similar to that of the Société Française d'Hygiène, a union between the two might perhaps ensure more success. In any case both bodies have undertaken a good work, and our heartiest sympathies will attend all their endeavours to promote the cause of sanitary reform.

LIME-JUICE v. LEMON-JUICE.

SINCE the Admiralty Committee on the Arctic Expedition finished its sittings, and notably after the appearance of the report, our attention has been called to the following facts: (1) that lime-juice, as distinguished from lemon-juice, is now used exclusively in the Royal Navy, but is still mixed with a certain percentage of alcohol; (2) that, according to evidence adduced, the merchant service, on the contrary, is supplied with about two-thirds lemon-juice and one-third lime-juice. It is, we believe, generally acknowledged that the juice of the lime as an antiscorbutic is better than that of the lemon; but when the Duke of Richmond's Act was passed (in 1867) the cultivation of limes was not extensive enough, either in the West Indies or elsewhere, to warrant an assurance that a sufficiency of lime-juice would be forthcoming in the market to supply the entire British mercantile marine. Lemon-juice as well as lime-juice was therefore named in the Act, and the Board of Trade standard was fixed so as to include both varieties. As, however, the supply of lime-juice from the Montserrat Company and others has lately increased, it appears to be worthy of consideration whether lemon-juice might now be excluded from the wording of the Act, and also whether the Board of Trade standard should be simultaneously raised, as it is well known that good lime-juice usually exceeds that standard, as given by Dr. Macdonald, one of the witnesses before the Arctic Committee. The question of admixture with alcohol is one somewhat difficult to determine. If great care be taken as to exclusion of air, we believe, on grounds of preservation, that the mixing with spirit may be unnecessary, if the juice be of very good quality and free from mucilage; but until these conditions are fulfilled, and the bottles now generally used afloat are made even smaller than at present, the addition of a small percentage of alcohol will, as a precautionary measure, continue to be expedient, if not absolutely necessary.

THE HEALTH OF MADEMOISELLE TITIENS.

VERY erroneous reports have appeared as to the state of Mademoiselle Titiens since her departure from London, and most mistaken ideas have prevailed as to the nature of the operation performed by Mr. Spencer Wells. As he was the operator, it was hastily assumed that he had removed an ovarian tumour, whereas the symptoms were all due to obstructed intestine and chronic peritonitis, with effusion of fluid into the peritoneal cavity. Mr. Wells opened the cavity, removed eighteen pints of fluid, and released the intestine, with immediate relief to the urgent symptoms, and he had the great satisfaction of attending, with Dr. Howell, F.R.C.S., of St. John's-wood, during recovery, which went on without a bad symptom. The wound healed by first intention, and Madlle. Titiens had taken two drives before she went to Worthing. The journey there, in a Royal saloon carriage badly coupled, was unusually trying, and for some days there was cause for anxiety, rather a severe cold having been taken just as the symptoms set up by the journey were going off. But the last reports are favourable, and we are not without hope of hearing this favourite and accomplished singer again before the close of the opera season.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE election for three vacancies in the Council of this College took place on the 9th inst. In last week's issue we gave the names of the candidates, and mentioned that Messrs. McDowell, Stokes, and Corley would most probably be returned; and we have now to state that our anticipations have proved correct, those gentlemen having been elected Councillors. The contest was a very close one; 85 Fellows recorded their votes. The highest number of votes obtained for any candidate was 44, and the fourth highest on the poll received 40. The election for the Professorship of Ophthalmic and Aural Surgery and that for Midwifery will take place on the 2nd of August. We are informed that Mr. Fitzgerald will not be a candidate for the former, but two additional names may be added, those of Mr. Rainsford, of St. Mark's Ophthalmic Hospital, and Mr. Stoney, Surgeon to Baggot-street Hospital.

FILTH REMOVAL.

WE have lying before us two papers of the Local Government Board, Ireland, on the subject of filth-removal, which might perhaps be usefully studied at the present time by the Local Government Board, England. The first of these papers is a circular letter addressed to the Irish Sanitary Authorities, directing their attention to and quoting the conclusions of the report of the committee appointed by the English Local Government Board to inquire into "Modes of Treating Town Sewage." The Irish Board, however, by no means accepts the conclusions of this report in the absolute fashion in which they are stated. Indeed, it points out how little they meet the necessity even of some town populations, and that the use of other means of filth-removal than water-carriage is not, as the committee seems to imagine, a matter of choice, if the sanitary condition of a population is to be the one thing aimed at.

The second paper gives point to the objection thus urged to the sweeping conclusions of the English committee on sewage. It contains, in fact, two reports on the pail system of filth-removal, by the private secretary of the Vice-President of the Irish Board, Mr. W. A. Power. These reports show the progress that has been made in both Manchester and Rochdale with reference to the development of the pail system in those towns since Mr. Netten Radcliffe's report to the English Local Government Board on filth-removal in 1874. Both reports are intended for the instruction of sanitary authorities in Ireland, and both prove that the Irish Local Government Board is abundantly justified in cautioning the authorities under its supervision as to the conclusions of the committee on sewage of the English Local Government Board on systems of filth-removal other than by water-carriage.

HARVEIANA.

CONSIDERING the paucity of information concerning the illustrious Harvey, the following reference, taken from the writings of Thomas Willis, Professor of Natural Philosophy in Oxford, and afterwards a celebrated physician in London, is not without interest. The reference, which, we believe, until the present time has been overlooked, occurs in the second or pathological part of a discourse on the "Diseases which belong to the Corporeal Soul and its Subjects." Treating of headache, Willis observes: "There is yet another chirurgical operation cry'd up by many for a pertinacious headach, but by none (that I know of) yet attempted, to wit, an opening of the skull near the grieved place with a trypaning iron. This our most ingenious Harvey endeavoured to persuade a noble lady, labouring with a most grievous and inveterate head-

ach, promissing a cure from thence; but neither she nor any other would admit that administration. Indeed, it did not appear to me that there could be anything of certainty expected from the opening of the skull where it was pained; if an imposthum lay there, this had been the only way of cure; but that would have caused sleepy distempers, or deadly convulsions than headach." We fancy modern medical opinion would endorse the view expressed by Willis.

PESSARIES.

DID the value of an instrument depend upon the frequency of its use, or upon the time, labour, and ingenuity spent in producing slight and unimportant modifications in its shape and structure, the pessary, among all instruments employed in the healing art, would certainly carry the palm. The fertility of genius, when directed into the pessary-inventing groove, is truly marvellous, and the number of such instruments at present in existence for all forms and shades of displacement is perfectly appalling to the student beginning the study of gynæcology. It is to be hoped that some other direction will soon be given to restless gynæcological genius, else we shall land ourselves in a position lamentable enough for medical science, but infinitely more so for suffering women. These remarks have been suggested by a discussion which recently took place at the Obstetrical Society of London upon a paper read before the Society by Dr. Jas. Braithwaite, of Leeds. Dr. Braithwaite showed an instrument for the treatment of certain obstinate cases of retroflexion, and described a mode of treating such cases which was in some respects new. It is not our object to enter into the merits or demerits of the instrument or of the method of treatment described. The President of the Society did not feel encouraged to try it by the results obtained by Dr. Braithwaite. The Society, however, fully appreciated the value of the work done and laid before them, for the paper elicited one of the most lively, if not one of the most interesting and scientific, discussions which have taken place at its meetings during the present session. It is, however, somewhat surprising to find the different estimation in which various pessaries were held by various members of the Society. There were several who advocated the use of the pessary invented by Dr. Hodge, and called after him, asserting it to be one of the most useful, harmless, and efficient of instruments, for the treatment of certain forms of displacement, in what is called the repertorium of the gynæcologist. There were others who had found the instrument useless, injurious, and quite inefficient for the successful treatment of the displacement for which it was specially designed. Both these statements were made as the result of large and extensive experience in the use of the instrument. It is impossible to harmonise them—one of them must necessarily be utterly wrong. A Hodge is useful in a large number of cases of displacement of the uterus, or it is not. We cannot conceive how opinions so entirely contradictory could have been formed on careful and large experience, and then deliberately uttered, unless it be due to a bias given to the mind by the craze for pessary invention which has come over a large class of obstetricians. It should be observed, moreover, that the so-called "new" pessaries (we do not refer now to Dr. Braithwaite's) are by no means new. It is a misuse of words to call them such. In many—indeed, in almost all—cases they are modifications of old instruments, made on the same principle as the old pessaries, and often the modification is so slight that it requires pointing out by the inventor himself before it can catch the eye of an ordinary observer. We feel sure that these so-called "inventions" do not bring credit to gynæcologists, and that there is a much higher field for the employment of genius than in perpetuating a name by attaching it to a "newly-invented pessary."

COMBINED SANITARY AUTHORITIES.

AN important question has recently been raised in Northamptonshire as to the financial position of the medical officer of health after the term of his appointment has expired, and pending the reappointment of the same, or some other person. As far as we can glean, several weeks elapsed in that way in the case of Mr. Haviland, who, nevertheless, continued to perform the duties. The Wellingboro' authorities therefore set the example by paying their officer as usual, but were surcharged by the Poor-law auditor. Application was, however, made to the Local Government Board, who have lately remitted the sum in question, thus giving a precedent for payment. The Oundle authority has already followed suit, but there are no less than ten other districts included in this combination, and it is to be hoped that, as the principle has been very justly and properly settled at Whitehall, the committees of these districts will at once see the propriety of taking practical and financial action without delay. The labourer in this case is surely worthy of his hire.

VACCINO-SYPHILIS.

AN inquest, extending over several days, has been recently held in Sunderland on the body of a child one year old, whose death had been certified as having resulted from vaccination performed nine months before, and which had been followed by syphilis and convulsions. The jury returned the following verdict:—"We are unanimously of opinion that the deceased came to her death from syphilis or syphilitic poisoning; but, in consequence of the conflicting medical testimony, we are unable to agree how the syphilitic poisoning was introduced into the system." The medical evidence given at the inquest, as reported in the local papers, regarding the nature of an eruption from which the child suffered previous to death, the existence of iritis, and the post-mortem appearances, was of the loosest description; but an arithmetical calculation of the opinions expressed would justify the jury's verdict as to the child having suffered from syphilis, but hardly, perhaps, that its death had been caused by that affection. Accepting, however, the decision of the jury in this matter, two facts come out quite clearly in the statements of the medical witnesses—first, that not an iota of evidence was advanced which showed that the asserted contraction of the syphilis by and through vaccination was probable; and next, that the mother of the child was suffering from syphilis at the time of its birth. Further comment on this case is hardly needed.

HEALTH REPORTS.

WE have lately received a cloud of sanitary reports from urban, rural, and port districts. The majority of these are purely statistical, and there is still great difficulty in putting them together for purposes either of actual or comparative observation, because, as we have often before observed, the uniformity of plan in the compilation of figures is very partial and incomplete. Dr. F. Griffiths, medical officer of health for Sheffield, makes some useful and pertinent remarks about the premature occupancy of houses. He says that a migratory population exists in Sheffield and similar places who are always ready to occupy houses even before they are furnished with doors and locks, but who are, nevertheless, welcome to the landlords, as they suffice "to give a start" to the place, and usually possess just enough furniture to distrain upon if the rent is not paid. But these houses, or

rather carcasses, are, of course, damp, often unprovided with street gas or paving stones, and air is breathed that is tainted with reeking bricks and plaster. The remedy, as Dr. Griffiths maintains, is to make a bye-law that a certificate of an inspector of nuisances, countersigned by the health officer, should be required before any of these so-called "new" houses can be occupied.

Dr. Alfred Hill, of Birmingham, contributes a very clear and comprehensible section of a house, furnished with drains, ventilators, &c., in connexion with a long and important paragraph on house construction. This part of the report is worthy the attention of all laymen interested in house sanitation, and may be studied with great practical advantage.

OVULATION WITHOUT MENSTRUATION.

THE relation of the discharge of ova to menstruation and of menstruation to the discharge of ova is a question to which considerable attention has in recent years been directed. It has been shown repeatedly by anatomical examination that menstruation may take place without the occurrence of ovulation, but similar evidence has hitherto been wanting in favour of the belief that ovulation may take place without menstruation. The opinion that ovulation may take place without menstruation has been based upon the fact that women who have never menstruated have borne children; but this was unsatisfactory, inasmuch as the objection may have been raised that the woman would have menstruated had not conception taken place—that, in fact, the occurrence of conception prevented that of menstruation. M. de Sinety has, however, set the question at rest by anatomical evidence. Before the Société de Biologie he described the anatomical characters of the uterus and ovaries of a woman who had never menstruated. She was thirty-eight years of age, and, with the exception of the menstrual flow, had presented from her tenth year all the symptoms of puberty. The uterus was externally of normal volume, but the cavity was formed almost entirely by that of the neck; the cavity of the body was like that of the fœtal organ, and the mucous membrane presented the character of the infantile condition. Ovulation had been very active, for the ovaries presented many false corpora lutea.

PROVIDENT DISPENSARIES IN BIRMINGHAM.

AN influential meeting was held in Birmingham on Wednesday last, at which it was resolved to establish provident dispensaries on a large scale, as has been done in Manchester. A deputation from West Bromwich attended for the purpose of having that town included in the scheme. A committee of thirty was appointed to carry out the project, including Mr. Oliver Pemberton, Mr. Furneaux Jordan, and Mr. Lawson Tait, as medical representatives.

DR. SAYRE'S TREATMENT OF POTT'S DISEASE.

DR. SAYRE, of New York, has, during the present week, given, at University College Hospital, two demonstrations of his mode of treating Pott's disease and lateral curvature by suspension and fixation, of which we shall hope to give a full account next week. It is gratifying in the highest degree to hear Dr. Sayre, in forcible Saxon, explain the principles of treatment, and equally instructive to witness the application of his plain plaster-of-Paris bandages, which compare so favourably with the cumbrous and never-fitting apparatus generally employed in such cases. Dr. Sayre is to give other demonstrations next week. We cannot too strongly advise our readers to witness them. We are not blind to the fact that much of the success obtained is due to Dr. Sayre's own rare mechanical and manipulative skill, but his principles are as sound physiologically as their application is mechanically expert, and we thank him most heartily for the trouble he is taking in England to illustrate and enforce them.

A NEW wing to the Hospital for Sick Children, Great Ormond-street, was opened last week. The wing is isolated from the main building, and consists of four wards containing sixteen beds, eight on the first floor and eight on the second, each ward having a kitchen, a bath-room, and linen store-room, also nurses' day-room and dormitories. The ventilation arrangements are elaborate, and a recreation ground is intended to be prepared in the rear of the building; funds for which, however, are, we believe, required, and will, we hope, be speedily forthcoming.

A MISUNDERSTANDING seems to have arisen between Dr. Marion Sims and other members of the medical staff of the Woman's Hospital, New York, which has resulted in the resignation of the former gentleman. A protest appears in the *New York Medical Journal* for June, in which Drs. Peaslee, Emmet, and Gaillard Thomas repudiate the charge that they "urged Dr. Sims to a bold and dignified stand for the honour and interests of the profession, and then meanly deserted him in the time of conflict."

AN important discussion is now in progress at the Paris Academy of Medicine, arising out of a communication made by M. G. Sée upon the employment of the salicylate of soda in rheumatism. We reserve an analysis of M. Sée's paper, and of the debate upon it, until the latter shall have been concluded. M. Sée himself is an ardent supporter of the salicylates, but his views are not equally shared by all French physicians.

AT the last monthly meeting of the Blaenavon Local Board, Dr. Hall, the medical officer of health, reported that measles had broken out all over the town, between 700 and 800 cases having occurred since the 2nd of April, and that eleven children had died during the month. A suggestion was made that the schools should be closed, but no resolution was passed on the subject.

THE Select Committee on the Canal Boats Bill has held several meetings, and their chairman, Mr. Salt, has visited some of the barges in the neighbourhood of London. We believe that it is not contemplated to call any witnesses, and that there is still some faint prospect of the Bill, in a somewhat altered form, becoming law before the present session closes.

PRINCE MILAN has conferred the Gold Cross of the Takovo Order upon Mr. William Collingridge, in acknowledgment of services rendered during the Turco-Servian war. Mr. Collingridge was the first English surgeon upon the Servian field.

A FINE specimen of the Colorado beetle was recognised crawling along a rope in the vicinity of the Liverpool Docks, Dublin Quay, on the 10th inst. This is the first time the insect appears to have been discovered in Ireland.

A TESTIMONIAL to Signor Garcia will be presented at 21, Harley-street, on Saturday next, at four o'clock. In the unavoidable absence of Lord Coleridge, the presentation will be made by Professor Huxley, F.R.S.

DR. EDWARD WARREN (Bey), of Paris, has just received the Cross of Chevalier of the Order of Isabel the Catholic as a recognition of his professional services to Spanish personages.

PENZANCE AS A HEALTH-RESORT.

THE advantages of this south-western watering-place as a health-resort are but little known to the profession and public, and Dr. Montgomery has done good service in calling attention thereto in an address to a professional gathering in this "first and last borough," which is fully reported in the *Western Morning News* of the 28th ult. The special peculiarities of its climate are its equability, the absence of severe cold, and the prevalence of south-westerly winds. The town is completely sheltered from the north, and largely so from the east and west, having an almost direct southerly aspect. The neighbourhood is delightful; geraniums, fuchsias, and myrtles grow out of doors unprotected in the severest winter, and attain an immense size. Many forms of phthisis improve very much, especially if complicated with irritative cough and sleeplessness, and so suitable a locality for such cases can hardly be found elsewhere in the kingdom. Its chief disadvantage is that it is undoubtedly very relaxing, and visitors and patients not unfrequently lose their appetites whilst staying here; but the north coast of Cornwall, which is only six or eight miles distant, is very bracing, and has many a sheltered spot, which might be much more utilised by invalids than at present. We would incidentally point out that Carbis Valley, near St. Ives, now rendered easily accessible by a new line of railway, is one of those pleasant and agreeable valleys, and we wonder that the Land's End neighbourhood itself is so little made use of as a residence by sufferers from phthisis. The west of Cornwall is decidedly humid, as might be expected from its proximity to the ocean, and the predominance of south-west winds; but the rain is almost always mild, so that the rainfall does not show a particularly high yearly average. The late Sir John Forbes lived and practised at Penzance for many years whilst his lungs were delicate, and obtained much benefit therefrom. Penzance is exceptionally well drained and sewered, and the fact that the connexions between the houses and the main drains were made by the local authorities under the personal supervision of the surveyor, and not left to the discretion of the owners of the houses, is most important in a sanitary point of view, and explains in a great measure its freedom from zymotic diseases. A few additional sewer-ventilators might still be made with advantage. Some of the local authorities seem to regret that the sewage is not utilised, but allowed to run to waste; but at present we are inclined to advise them to "let well alone." We feel bound, however, to again lay stress on two or three points to which we referred last autumn. The water-supply to the town has been notoriously insufficient during the past few years, and this is the less excusable as plenty of water could be easily obtained and stored, if the local authorities would only make a right use of the natural advantages of the district in this matter. Dr. Montgomery seems to have left this unnoticed in his address, and we should be glad to learn that effectual precautions had been taken to prevent such a drawback occurring again in future dry summers. The filter-beds, which an enlightened policy would soon cause to be completed, also seem to have dropped into temporary oblivion, and are too far removed from the town. It is scarcely necessary to point out that the shorter the length of pipe through which the water has to run after having undergone filtration, the purer will it be on delivery; and an eligible site should have been secured nearer the town than the present one. We believe that there is no registration of the lodging-houses with regard to the presence of infectious cases therein, nor is there a separate hospital for the isolation of such cases should they occur. As Penzance was one of the first towns in the kingdom to stir itself in sanitary matters, we should regret to see it passed by later comers in the field. It would be better if its medical officer of health were a paid servant of the urban sanitary authorities, and were called on to furnish for publication a quarterly or half-yearly report of its sanitary condition, as is the case in most watering-places, and is manifestly to the interest of towns which are so free from preventable disease. If future gatherings of medical men take place a little more frequently than "once in fifty years," as stated by Dr. Montgomery, such deficiencies as we have pointed out must soon be things of the past, and Penzance would become as perfect in its sanitary arrangements as it is delightful in scenery and climate.

AIR DISSOLVED IN SEA-WATER.

Mr. J. Y. BUCHANAN, the chemist to the *Challenger* expedition, has favoured us with an abstract of a very interesting paper on the above subject, which he read a few weeks ago before the Royal Society of Edinburgh.

Mr. Buchanan showed the water bottle which he had invented, and which was used for collecting the "intermediate waters." It consists of a metal cylinder with tap at each end, connected by a metal rod bearing a flap, which falls into position when the bottle ceases to descend, and in "being hove in" the pressure of the water rushing past it causes it to descend and shut the taps, thus enclosing the desired sample of water. The apparatus for boiling out the oxygen and nitrogen, and that for determining the carbonic acid, were illustrated by diagrams, which also afforded an idea of the arrangements inside the miniature laboratory on board the *Challenger*. The general results of investigations made went to show that while the absolute amount of oxygen and nitrogen capable of being dissolved is less in the case of sea-water than in that of fresh water, the proportion between the amounts of the two gases dissolved remains nearly the same; that the absolute amount dissolved both of permanent gas and of carbonic acid depends on the temperature; that in no case is there more gas dissolved in water taken from any depth than it would be capable of absorbing from the atmosphere in regions where the same temperature prevails at the surface; that, in fact, the water at great depths preserves all the physical properties which it had when it left the surface, including temperature, specific gravity, and gaseous contents (with the exception of the proportion of oxygen). The belief in the existence of water at great depths so charged with gas as to effervesce when brought to the surface is not wholly false. This phenomenon is observed when water is brought from great depths in the hot equatorial and tropical regions. Near the bottom the water may have a temperature bordering on the freezing point, and will contain a corresponding amount of air. Brought to the surface, where the temperature may be between 80° and 90° F., it can no longer contain the same amount of gas; and if in a glass vessel, the walls will be seen to clothe themselves with minute air bells, somewhat like natural seltzer water which has stood for a little time in an open vessel. At the surface the percentage of oxygen varies between 33 and 35 per cent., the higher number having been observed in a water collected almost on the antarctic circle; the smallest percentages have been found in the tradewind districts. In bottom-waters the absolute amount is greatest in antarctic regions, and diminishes generally towards the north. The oxygen percentage is greatest over "diatomaceous oozes," and least over "red clays" with peroxide of manganese, and over "blue muds" it is greater than over "globigerina oozes." In intermediate waters the very remarkable fact was observed that the oxygen diminishes down to a depth of 300 fathoms, where it attains a minimum, after which it rises. The following figures will show the nature of this phenomenon:—

Depth (fathoms).	Oxygen (N+O=100).
0	33·7
25	33·4
50	32·3
100	30·2
200	23·4
300	11·4
400	15·5
800	22·6
Between 800 and bottom	23·5

It is evident from these figures that between 200 and 400 fathoms there is a great consumption of oxygen going on, and as it is difficult to conceive its being consumed other-

wise than by living creatures, the conclusion is forced on us that animal life must be particularly abundant and active at this depth, or at least more abundant than at greater depths, for at less depths there is more opportunity of renewal of the oxygen by reason both of the greater proximity to the surface and of the existence of vegetable life. This conclusion was borne out by the numerous experiments made by Mr. Murray with the tow-net at intermediate depths, which went to prove the existence of abundance of animal life down to 400 fathoms, vegetable life never extending to much below 100 fathoms. Below 400 fathoms life is sparingly met with.

THE SMALL-POX EPIDEMIC.

WHEREAS the deaths from small-pox in London during the first week of July showed a marked further decline from the numbers in recent weeks, the increase of new cases admitted to the Metropolitan Asylum Hospitals forbids the hope that the present epidemic will soon disappear.

The deaths referred to small-pox in the metropolis, which in the eight preceding weeks had slowly but steadily declined from 78 to 44, fell to 23 during the week ending 7th instant, of which 14 were recorded in the Metropolitan Asylum Hospitals, 1 in the Pancras Small-pox Hospital, and 8 in private dwellings. The Registrar-General points out that after distributing the 15 fatal hospital cases, 6 of the deceased small-pox patients had resided in the east and 8 in the south groups of districts. The 23 deaths included 1 in Mile-end Old-town, which was of the third child in the same family from small-pox, all of whom were unvaccinated. In the suburban districts of the outer ring, 7 deaths from small-pox were registered during the week, of which 3 occurred in West Ham, 2 in Croydon, 1 in Stratford, and 1 in Edmonton.

The number of small-pox patients in the Metropolitan Asylum Hospitals, which in the six preceding weeks had steadily declined from 964 to 664, further decreased last week to 641; the admission of new cases, however, which in the two previous weeks had been 93 and 97, rose to 146. In the Highgate Small-pox Hospital, moreover, the inmates increased from 39 to 44.

Out of London and its suburbs, only 6 deaths from small-pox were registered during the week in the large towns dealt with by the Registrar-General in his weekly return; of these, 5 occurred in Liverpool, and 1 in Salford.

THE WAR.

A TELEGRAM from the special correspondent of *The Times* at Shumla, dated the 8th July, will probably cause some hesitation among the charitable associations here engaged in sending medical aid to the Turkish army. He states that the English surgeons in Rustchuk have not been permitted to attend the wounded there, and that the latter, some with broken arms and legs, have been sent off, with their wounds undressed, to Constantinople. To know what this means, it must be understood that the carriages used for the purpose of transferring the wounded over so long a journey would be the common country, springless cart, drawn by buffaloes! Only those who have witnessed the transport of wounded men in such vehicles can fully understand the sufferings which they undergo from the rough jolting over country roads and the slow motion. When, as now, the transport has to be effected under a burning sun, the suffering is heightened inconceivably. Further, it is stated that the principal medical officer of the Turkish forces at Rustchuk has seized upon the stores sent there by the Stafford House Committee, in spite of the protests of the English surgeons, but had not made use of them. Readers who remember the medical incidents of the Crimean war may recall to mind how the work of a special medical staff, sent to the Turkish army by the English Government, at the request of the Porte, was rendered largely futile by the action of the principal medical officers of the several Turkish forces among which the staff was distributed. The Stafford House Committee was about to send out four additional surgeons, when the above news arrived. It is unknown yet whether any ladies have answered Lady Strangford's appeal to give nursing help to the Turkish army. With every respect for her knowledge of the Turk, and that of some of her coadjutors, we question the fitness of women giving help in the Turkish army hospitals.

As we anticipated, the movement of the Russians across the Danube has, for the moment at least, brought about difficulties in provisioning and providing for the medico-sanitary necessities of the advanced forces. To the latest news, the two bridges which alone for the present have served for the communication between the left bank and the right, have been so much occupied by the transit of the necessary men and warlike material to hold the places secured on the right bank, that food and medico-sanitary material have been passed over in mere driblets. Hence the advanced troops had the additional merit of holding their ground under some sharp campaigning experiences, especially affecting the stomachs of both man and horse. The advanced forces have now secured their position, and it is to be expected that little onward movement will be made until stores have been passed across the river in sufficient amount to render the Russian army in Bulgaria largely, if not wholly, independent of local supplies.

A significant indication of the anticipated medical prospects of the campaign, in its present phase, is furnished by the formation of a committee at Kiev to transmit quinine to the Russian army. This useful association has already sent 321,000 doses. Another very commendable association has been formed in Odessa, the object of which is to send tobacco to the soldiers.

Correspondence.

"Audi alteram partem."

DISCOVERY OF THE ADULT REPRESENTATIVE OF MICROSCOPIC FILARIÆ.

To the Editor of THE LANCET.

SIR,—Permit me to announce an interesting addition to our knowledge of parasites, seeing that it is calculated to throw light upon the question of the origin of one or more obscure diseases.

The brilliant discoveries of Lewis, followed up as they were by Sonsino in Egypt, and by Welch and others in this country, have at length been verified and extended by the observations of Dr. Bancroft, in Australia, who has become acquainted with the sexually mature form of at least one of the various kinds of minute nematoid hæmatozoa.

As has already been stated in the pages of one of your contemporaries, I received, in the spring of 1876, some capillary tubes from Australia, charged with blood taken from a chylurous patient. The donation came through Dr. Roberts of Manchester, who, prior to my investigation, had himself examined the contents of similar tubes, and had personally verified Dr. Bancroft's discovery of the microscopic hæmatozoa in question. In the notice which I published at the time, and which was reprinted in the *Veterinarian* (July, 1876), I mentioned that I had detected a nematoid ovum in the Australian blood—a fact which rendered it almost certain that the adult worm must be sought for in the human bearer. I sent Dr. Bancroft a copy of this article, and what was therein stated induced him to continue his investigations. These further researches have resulted in the record of novel facts which, in response to his courtesy, I now make public.

In a communication dated from Brisbane, Queensland, April 20th, 1877, Dr. Bancroft writes as follows:—

"I have laboured very hard to find the parental form of the parasite, and am glad to tell you that I have now obtained five specimens of the worm, which are waiting to be forwarded by a trustworthy messenger.

"I have on record about twenty cases of this parasitic disease, and believe it to be the solution of chyluria, some

form of hæmaturia, one form of spontaneous lymphatic abscess, a peculiar soft varix of the groin, a hydrocele containing fibrinous fluid, another containing chylous fluid, together with some forms of varicocele and orchitis. These I have verified.

"In the colony there are no cases that I can find of elephantine leg, scrotal elephantiasis, or lymph scrotum; but, from the description of these diseases in the volume on Skin and other Diseases of India by FOX, Farquhar, and Carter, and from Dr. Roberts's article on the latter in his volume on Urinary Diseases, I am of opinion that the parasitic nature of the same will be established.

"The worm is about the thickness of a human hair, and is from three to four inches long. By two loops from the centre of its body it emits the filariæ described by Carter in immense numbers.

"My first specimen I got on Dec. 21st, 1876, in a lymphatic abscess of the arm. This was dead. Four others I obtained alive from a hydrocele of the spermatic cord, having caught them in the eye of a peculiar trocar I use for tapping. These I kept alive for a day, and separated them from each other with great difficulty. The worm, when immersed in pure water, stretches itself out and lies quite passive. In this condition it could be easily washed out of hydroceles through a large-sized trocar from patients known to suffer from filariæ.

"I will forward you full particulars of my cases (and the worms) at an early date."

Such, Sir, is Dr. Bancroft's account of his "finds," and from the brief description furnished I propose to call the adult nematode *Filaria Bancrofti*.

If I refrain from lengthened comment on the significance of the facts it is because I know how ill you can afford the space necessary to do full justice to the subject. The literature of the hæmatozoa has already become intricate and of great extent.

I will only add that I share with Drs. Bancroft, Lewis, Sonsino, Fayrer, and others the opinion that a considerable group of morbid conditions, hitherto obscure as to their modes of origination, arise from the injurious action of microscopic filariæ.

I am, Sir, your obedient servant,

T. SPENCER COBBOLD, M.D.

Portsdown-road, July 7th, 1877.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.

To the Editor of THE LANCET.

SIR,—Mr. Hawkins and yourself call attention to the great disparity between the mortality of lying-in women attended at their own homes and at this hospital. Although differing for the present from your conclusions that the hospital should be closed, for reasons mentioned later on, still I think at this juncture, when a new lying-in hospital is attempted to be started upon some improved plan, two old ten-roomed houses being turned into a lying-in hospital, it is extremely desirable to ventilate the question, and show what has been the result of the working of the existing hospitals. All who have had any experience of lying-in hospitals must acknowledge they are hazardous and critical institutions, demanding constant supervision over minute details, besides very strict discipline, let alone the mode of construction, to afford any degree of safety to the patients.

Mr. Hawkins' experience has been derived from the working of this hospital, whose system I will briefly, with your permission, detail, to show how extremely defective it was and what an unfair criterion it is to judge by.

Up to March, 1873, this hospital, admitting between four and five thousand patients, two-thirds primiparous single women, within ten and a half months, containing fifty beds, divided amongst fourteen wards, each having, with two exceptions, three beds, had the various multitudinous duties of housekeeper, matron, midwife, instruction of pupil nurses and midwives, the superintendence of a large correspondence for the procuring of pupils, and the supplying of monthly and wet nurses, performed by one individual—the matron. There were no paid nurses, beyond a night nurse with an assistant, who had the entire charge, during half of the twenty-four hours, of between sixty and ninety mothers and infants. All the nursing of the other portion of the day was done by ignorant, constantly changing probationer nurses, remaining about a month. At times there was a medical pupil, who came to learn midwifery. The supply was irregular. What would be thought of working a general hospital with thirty beds upon such a plan, let alone a lying-in hospital?

In March, 1873, a qualified resident medical officer was introduced, through the instrumentality of Dr. Hope, the senior in-patient physician, to take notes, and have the medical charge of the patients in the absence of the physician. No other change was made. As his duties seemed to clash with the matron's, an attempt was made to abolish the office. This was prevented by the powerful aid of Dr. Gream, one of the vice-presidents, who also supported the recommendation of the physician to separate the two offices of matron and resident midwife, which was carried; Mr. Hawkins retiring from the hospital.

In the early part of 1875 a resident midwife was appointed; the nursing was the same, and the system of allowing a pupil monthly nurse to attend a labour of a multipara before leaving continued; the acting staff not feeling themselves strong enough, in the face of the opposition created by this modicum of reform, to extend them further. In 1876, at the July meeting, this opposition party, by the aid of the ladies' votes, defeated the acting staff, and reverted to the old system. The hospital, re-opening on September the 15th, 1876, with a medical pupil, the matron acting as midwife up to end of October, had to be closed on the 20th of November on account of a fearful outbreak of puerperal fever, causing eight deaths, five of whom were married women. I enter into these minute details as Mr. Hawkins, in his letter dated January 20, 1877, endeavoured to draw deductions unfavourable to the house-surgeon. There was an epidemic of puerperal fever when the office was first instituted, which raged with more or less virulency up to the closing of the hospital in August, 1873. The mortality under the house-surgeon has been about 1 in 39. But the general condition of the hospital during the three years he was in power was vastly improved. After the severe epidemic the hospital was closed until 15th of February, 1877, when a new system was inaugurated, which, with your kind permission, I will briefly give in your next week's number. It is already working with the prospect of good future results.

The grave responsibility which both yourself and Mr. Hawkins endeavour to throw upon the staff for continuing to work a hospital which experience has shown to be fraught with such lamentable results, is unjust. The charge should not be against the present staff, who have been, during the last four years, doing their utmost to effect common-sense reforms, but against those who inaugurated such a system as I have mentioned, and allowed it to remain after time had conclusively shown its failure by a mortality of 1 in 35, let alone the deaths shortly after removal, or the unfortunates who escaped death maimed for life. Had it not been for the opposition in 1873, the whole system would have been radically reformed upon its present basis, and the opprobrium under which the present staff now labour for a mortality of 1 in 40 would not have existed.—I am, &c.,

Curzon-street, July 10th. W. C. GRIGG.

ABSTINENCE FROM ALCOHOL.

To the Editor of THE LANCET.

SIR,—May I ask any of your readers who have studied the effects of alcohol to give their opinion on the effects of alcohol in small quantities upon the alvine secretions?

Five-and-twenty years ago, when at Cambridge, I drank all that came with the carelessness of youth. Gradually, however, as life became more serious, I cherished my brains the more, and gave up alcohol during the day. At dinner I took a very moderate quantity. This I did for ten years. Gradually, however, I found that even this spoilt my brains for the evening, making me idle and indisposed for thought. I therefore cut off all alcohol, and for about six years past have taken none when at home. I dine out occasionally—say once in three weeks on an average, sometimes not for one or two months if very busy. Having no evening work on such occasions I take wine freely—say from half a pint to a pint in all. Now, when I look back,

as lately I have been led to do, upon these six years I find my bowels have become irregular and constipated; I have been moody at times, subject to occasional slight hemicrania, and my urine has been habitually lithatic. I find also that after dining out I have always felt wonderfully brighter and better for a day or two, and have attributed this to the pleasure of social intercourse But among my reliefs have always been clearer urine and open bowels. Now as to the cause of my looking back and trying to interpret this experience. Of late many medical men have prescribed total abstinence, and total abstinence has been largely tried by the public. The result has been that many persons have come to me complaining of constipation, and attributing this to the abstinent diet, or at any rate declaring their coincidence. One gentleman tells me "on total abstinence from alcohol I am always constipated and dull, but with the use of claret I am a free man again." Such testimony comes to me from many sides, and I wish to know if others have noticed it. I certainly now begin to think that total abstinence as a habit has been a mistake in my own case.

I am, Sir, yours, &c., T. C. A.

THE ROYAL COLLEGE OF SURGEONS.

AT a quarterly meeting of the Council of the Royal College of Surgeons of England, held on Thursday last, Mr. Birkett was unanimously elected President; Mr. Spencer Wells, Hunterian Professor of Surgery and Pathology; Mr. Erasmus Wilson was re-elected Professor of Dermatology; Messrs. Flower and Parker, Professors of Comparative Anatomy; and Mr. Lowne, Aris and Gale Lecturer on Anatomy.

The consideration of the recommendations of the Committee on the Dental Diploma was postponed *sine die*.

Medical News.

APOTHECARIES' HALL.—The following gentleman passed the examination in the Science and Practice of Medicine and received a certificate to practise on the 5th inst.:—

Blomfield, Arthur George, Barton-le-Clay, Bedfordshire.

The following gentlemen also passed the Primary Professional Examination:—

Thomas Beaufoy Green and John Jenkin Lloyd, University College; Henry Blackburn Leatham, John James Powell, Francis Henry Weekes, and Robt. Crewdson Bennington, St. Thomas's Hospital; Joseph Smith Clowes, Guy's Hospital; Thos. Cameron Temple, Middlesex Hospital; William Frederick Campbell, St. Mary's Hospital; John Tyngle Butterworth, Birmingham General Hospital.

THE inaugural address at the Westminster Hospital will be given by Dr. W. C. Grigg.

DR. RAPHAEL W. READ, Deputy Inspector-General, has been placed on the Commission of the Peace for Salisbury.

MR. SANDFORD F. DAVISON, of Carlton, Notts, has been publicly presented with a silver epergne, as a token of esteem and respect, by upwards of 300 patients and friends, after fifty years' residence among them.

THE Wigton Local Board have accepted the offer of the Directors of the local Water Company to sell the water works for £7500, on the 1st of March next, the shareholders to receive a dividend of four per cent. for the year ending December, 1877.

JAMES ATKINSON, M.R.C.S., has been elected an alderman and the first mayor of the newly constituted borough of Crewe, Cheshire.

MR. SAMUEL T. HUKE, late medical officer for the Ludham district of the Smallburgh Union, Norfolk, has been presented with Matthew Henry's Commentary, Figuier's Ocean World, and a silver snuff-box, subscribed for by the poor of Ludham and the adjacent parishes, for his unremitting attention and kindness to them for nearly fifty years.

THE EMPEROR OF BRAZIL spent part of Saturday and Sunday last in Dublin. Among other places, he visited Trinity College, and examined some rare and curious manuscripts and books in the University.

A MEETING was held this week in the library of Lambeth Palace for the purpose of establishing a district nursing home in Lambeth in connexion with the Metropolitan and National Nursing Association.

AT the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on the 10th instant—Dr. J. W. Johnston, Inspector-General, in the chair,—the sum of £85 was distributed among the various claimants.

PROVIDENT SURGICAL APPLIANCE SOCIETY.—This Society, in the last annual report, made an appeal for assistance towards paying off their debt of £400, in answer to which Lady Bouchier has given £20, the Duke of Westminster £10, and Miss Flora Goldsmid £5 5s. In a circular recently issued the Society state that the payments by patients increased from £147 for 696 instruments in 1873, to £580 for 2436 instruments in 1876, while in the present year the payments were £337 for 1304 instruments up to the 20th ult. only.

ROYAL COLLEGE OF SURGEONS.—The Prince of Wales again visited the museum of this institution on Saturday last, and on this occasion was accompanied by the Princess of Wales, Prince Waldemar of Denmark, and suite. The Royal party was received by Mr. Prescott Hewett (President of the College), Professor Flower (conservator), and Mr. Trimmer (secretary), by whom they were conducted over the establishment, where they remained nearly two hours, and on leaving were pleased to express the great gratification they had experienced from their visit.

HARVEY TERCENTENARY MEMORIAL FUND.—A meeting of the subscribers to this Fund will be held, by permission of the President of the Royal College of Physicians, at the College, Pall-mall East, on Wednesday next, July 18th, at 5 P.M. The business of the meeting will be the following:—1. To elect honorary treasurers to the Fund; Sir G. Burrows, Bart., M.D., and Prescott Hewett, Esq., will be proposed for this office. 2. To receive the honorary secretaries' report of the progress of the Fund, and a statement of accounts. 3. To elect two auditors. 4. To discuss and adopt measures for promoting the success of the object of the Fund. The attendance of all subscribers is earnestly requested.

Medical Appointments.

BARNES, R. S. F., M.B., C.M., M.R.C.P.L., has been appointed a Physician to the British Lying-in Hospital, vice Wiltshire, resigned.

BEDDARD, J., M.B., F.R.C.S.E., has been appointed Consulting Medical Officer to the Free Hospital for Sick Children, Nottingham, on resigning as Medical Officer.

CHARLES, D. A., M.D., C.M., L.M., has been appointed Medical Officer, Public Vaccinator, &c., for the Hellaghy Dispensary District of the Magherafelt Union, and Medical Attendant to the Royal Irish Constabulary, Hellaghy and Castledawson, vice Adamson, resigned.

CLIFFINGDALE, S. D., M.B., has been appointed Resident Accoucheur to the London Hospital, vice Brumwell, resigned.

COOPER, C., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Needham-West District of the Bosmere and Claydon Union, Suffolk.

DRING, W. E., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the No. 3 District of the Faversham Union, and Medical Officer of Health for No. 3 Sub-district of the Faversham Rural Sanitary District, vice Francis, resigned.

HAMMOND, E. B., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Claydon District and the Workhouse of the Bosmere and Claydon Union.

HAYES, P. J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed a Medical Officer for the Cork Dispensary District of the Cork Union, vice Curtis, resigned.

HENDERSON, A., M.D., has been appointed Medical Officer for the Central District of the Parish of Brighton, vice Hart, resigned.

KIRKPATRICK, J. R., M.B., F.R.C.S.I., L.K.Q.C.P.I., has been appointed Medical Officer to the Bank of Ireland Medical Association, vice Croasy, deceased.

MACKENZIE, J. A., M.B., C.M., has been appointed House-Surgeon to the Bolton Infirmary and Dispensary, vice Garstang, resigned.

MAHOMED, F. A., M.D., has been appointed Medical Registrar to Guy's Hospital.

MARSHALL, L. W., M.D., M.R.C.S.E., has been appointed Surgeon to the Free Hospital for Sick Children, Nottingham, vice Beddard, resigned.

MASSEY, W., L.R.C.P.Ed., M.R.C.S.E., has been reappointed Medical Officer of Health for the Shardlow Rural Sanitary District, at £100 for one year.

MAYNE, N., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Surgeon to the County Longford Infirmary and to the County Gaol, vice Edgeworth, resigned.

O'FLAHERTY, R. G., M.B., L.R.C.S.I., has been appointed a Medical Officer, Public Vaccinator, &c., for the Kingstown Dispensary District of the Rathdown Union, co. Dublin, vice J. O'Flaherty, L.R.C.S.I., M.R.C.S.E., L.S.A.L., resigned.

OLLEY, A. E., M.R.C.S.E., L.S.A.L., has been appointed House-Physician to the Radcliffe Infirmary, Oxford, vice Branfoot, resigned.

PINK, T., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Stratford District of the Samford Union, Suffolk, vice Duke, resigned.

SAUNDERS, F. H., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Eastern District of the Pately Bridge Union, Yorkshire, vice Veale, resigned.

SMITH, W. H., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the Beckett Hospital and Dispensary, Barnsley, vice Bass, resigned.

WALL, E. A., L.R.C.S.I., L.K.Q.C.P.I. & L.M., has been appointed Medical Officer, Public Vaccinator, &c., for the Carrick-on-Suir Dispensary District of the Carrick-on-Suir Union, vice Fitzgerald, resigned.

WOOD, W. D., L.R.C.P.Ed., L.R.C.S.Ed., has been reappointed Medical Officer of Health for the Wakefield Rural Sanitary District for three years.

Births, Marriages, and Deaths.

BIRTHS.

BADCOCK.—On the 5th inst., at Buckingham-place, Brighton, the wife of Lewis Carter Badcock, M.D., of a daughter.

CAMERON.—On the 6th inst., at Shell-road, Liverpool, the wife of Archibald H. F. Cameron, L.R.C.P.Ed., of a daughter.

CARMICHAEL.—On the 10th inst., at South Cumberland-street, Glasgow, the wife of Neil Carmichael, M.D., of a daughter.

EASBY.—On the 4th inst., at March, the wife of William Easby, M.D., of a daughter.

MAY.—On the 8th inst., at Twickenham, the wife of Percy May, M.R.C.S., of a daughter.

NIX.—On the 7th inst., at Upper Marylebone-street, the wife of Edward J. Nix, L.R.C.P.Ed., of a son.

POCOCK.—On the 11th inst., at Golborne-road, Upper Westbourne-park, the wife of F. Ernest Pocock, M.R.C.S.E., L.S.A.L., of a daughter.

SHARGOD.—On the 6th inst., at Plymouth, the wife of Edward Julian Sharood, M.D., Staff-Surgeon H.M.S. *Cumbridge*, of a daughter.

SIMS.—On the 4th inst., at Half Moon-street, Piccadilly, the wife of Francis M. B. Sims, F.R.C.S.E., of a daughter.

TAYLOR.—On the 11th inst., at Champion-park, Denmark-hill, the wife of W. Bramley Taylor, M.R.C.S., of a daughter.

MARRIAGES.

McVAIL—ROWAT.—On the 7th inst., at Clapton-park Congregational Chapel, John C. McVail, M.D., to Jessie, daughter of the late John Rowat, Esq.

ROBERTS—LINDFIELD.—On the 7th inst., at Christ Church, Albany-street, Regent's-park, H. W. Roberts, M.R.C.S.E., to Eliza, daughter of the late Thomas Lindfield, Esq.

DEATHS.

DEVANY.—On the 23rd ult., at Castle-street, Sligo, Patrick Charles Devany, L.R.C.P.Ed., aged 27.

HEBERDEN.—On the 8th inst., at Park-street, Grosvenor-square, Thomas Heberden, M.D., aged 75.

O'BRIEN.—On the 6th inst., at Bray, Robert O'Brien, L.K.Q.C.P.I., formerly of Lower Leeson-street, Dublin, aged 71.

O'KELLY.—On the 6th inst., at Lisdoonvarna, co. Clare, Martin Talbot O'Kelly, L.R.C.S.I., of Ballygoran House, Maynooth, aged 70.

PRIGG.—On the 7th inst., at Notting-hill, Frederick Prigg, M.R.C.S.E., aged 29.

SCARRY.—On the 29th April, at Calcutta, John William Scarry, L.R.C.S.I., Surgeon s.s. *Dorunda*, aged 30.

SCOTT.—On the 9th inst., at St. Edmund's Villa, South Lambeth-road, Charles Scott, M.D., C.B., Inspector-General of Hospitals, Honorary Surgeon to Her Majesty, aged 74.

SMITHSON.—On the 5th inst., at Southcoates, York, John Smithson, L.S.A.L., aged 48.

WALLIS.—On the 5th inst., at Dorchester, John Wallis, M.R.C.S.E., aged 93.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Dr. S. O. Habershon on Pathology of the Pneumogastric Nerve.
H. Leach: A Bit of Bulgaria.
G. Mitchell: Cumberland Disease in Australian Sheep.
Dr. R. Lewis: Life and Mind, on the Basis of Materialism.
Dr. T. Hay: History of a Case of Recurring Sarcomatous Tumour of the Orbit.
J. Allen: Where shall I get the most for my Money?
Journal of the Statistical Society. June.
The Westminster Review. July.
T. C. Fox: Epitome of Skin Diseases.
Dublin Journal of Medical Science. July.

Notes, Short Comments, and Answers to Correspondents.

SEWAGE OF TOWNS.

AN important paper on this subject was lately read by Dr. Carpenter, to illustrate the so-called Moser's closets in the administration of a dry system of sewage-disposal. The district operated on in this case is the hamlet of Waldon, lying between Beddington and the south-west corner of Croydon. The subsoil is generally waterlogged, owing to the exercise of various ancient rights by mill-owners and others as to the streams that flow into the Wandle. But, nevertheless, houses were built, immediately occupied by a swarm of poor, and soon afterwards by various forms of enthetic disease. It is reported that "the stench from the overflowing cesspools was perceptible on the high road." As sewers were impracticable, twenty Moser's closets were erected at a cost of £3 per closet. They are of very simple construction, comprising a hopper at the back large enough to hold a week's supply of ashes or earth. A seat is fixed over half a petroleum-tub, and by a simple arrangement ashes or earth enough is discharged into the tub whenever the closet is used. An arrangement is made by which the liquid is kept distinct from the solid material, the former being absorbed by the sawdust. The tubs are changed weekly, and the whole cost of removal for 118 days has been £70 5s., without deducting the value of the material collected. Taking the average rateable value of these 200 houses at £15, Dr. Carpenter calculates that it would entail a rate of 9*d.* in the pound to provide for the removal of excreta by the dry earth plan.

Dr. Monckton's communication shall appear in our next number.

PROFESSIONAL ETIQUETTE.

To the Editor of THE LANCET.

SIR,—Under this heading in your last issue Mr. Stedman accuses me of having acted in an unprofessional manner towards him, and in proof of which he cites a case, the facts of which are so misrepresented that I cannot but believe he must have rushed into print under a mistaken impression. I pass over his sneering allusion about my having lately come into this village. I did not say I came for my health when I took up my abode here. I came in a legitimate and professional way, having purchased my practice from a gentleman, by whom and his two predecessors the practice had been held for half a century. In reference to the case itself, allow me to make a plain statement of the facts, which admit of no contradiction.

On June 17th Mrs. A—— met with an accident, and I was sent for; but, being from home, Mr. Stedman was called in, and went on attending the case. The next day the patient's sister came to my house, and asked me to visit Mrs. A——, who was suffering great pain. I explained that, as Mr. Stedman was attending the case, I could not see her unless in consultation with him, and, although pressed to accompany the messenger, I refused to do so. About an hour afterwards the same messenger came to me again, entreating me to see her sister, who, she said, was almost mad with pain, and must be seen by some medical man; and, as Mr. Stedman was out of the village, I accordingly went to see Mrs. A——, made no examination of her leg, but simply sent her a sedative to soothe her. I repeated to the patient what I told her sister before, that I would not see her again unless in conjunction with Mr. Stedman, should he agree to meet me. A note was sent to that gentleman, informing him (so they told me) that the patient wished him to have a consultation with me over the case. Later in the evening I was informed by the relatives of Mrs. A—— that Mr. Stedman refused to meet me, and they desired me to attend the case. Next morning I made a careful examination of the injury, found a fracture just above the knee, distinct crepitus (which the patient herself said she could feel), with free lateral motion below the seat of fracture. I made no disparaging remarks concerning Mr. Stedman's diagnosis; nor can it be wondered at that in a small village people should talk about an accident which happened in such a public place as a church. I, of course, told the patient her leg was broken, and they naturally gave the same answer to any inquiries.

With reference to Mr. Stedman's wish to compel me to have the opinion of some surgeon whom he may wish to see the case, he need have been under no apprehension on that account, as, if he had asked me, I should have gladly consented to such a proposal. Now, however, I shall ask a competent and unbiased authority, and shall forward you the result of his diagnosis, though more than three weeks after the accident.

Now, Sir, these details, which I am sorry to trouble you with, can be substantiated by the patient and her relatives; and having always endeavoured professionally and otherwise to conduct myself as a gentleman, I would esteem it a great favour if you would inform me in what I have erred, or how I could have acted differently, to avoid breaking those rules of medical etiquette which Mr. Stedman in a very novel and unprecedented manner seems so anxious to sustain.

I am, Sir, yours faithfully,
J. T. H. SEALY, L.R.C.P. Ed., &c.

Castleton, *viâ* Sheffield, July 10th, 1877.

*** As there is a discrepancy between Mr. Sealy's statement of the facts and that of Mr. Stedman, before giving our final opinion we shall wait for any further correction of the narrative of events.—ED. L.

THE GOLDEN-SQUARE HOSPITAL.

WE have received a letter from *Mr. Lusk*, the present Chairman of the Committee of Management of this hospital, which we think should rather have been addressed to the persons holding the inquiry than to ourselves.

Surgeon, R.N. (Creetown), will find that his question was answered on June 23rd, page 928. Tanner was recommended, but Ellis's is also a very good book.

Intemperance, (Bradford.)—We cannot recommend a particular institution.

ROBBERIES FROM CONSULTING ROOMS.

WE are called upon now and again to publish a letter from some member of our profession who has been the victim of a designing thief, who, under the pretence of securing the services of the doctor for a friend, purloins, when the servant's back is turned, any portable article that may be at hand. But this nefarious business has apparently become systematised in the United States, and reached a refinement which it has not attained in this country. In Philadelphia such robberies are so frequent and so cleverly executed that "the stringent rule of doctors' houses is that not a soul, even though he be a bishop, shall be admitted to the office during the absence of the physician, unless the servant keep guard." In New York there is a fashionably dressed "lady" who has spoiled many an office. She goes so far as to hire a coach at an adjacent livery stable to carry her to the scene of her depredations, and orders the hiring to be charged to the account of the doctor whom she designs to rob.

Sanitas should certainly apply for the fees which have not been voluntarily paid to him.

Dr. Henry M. Church's paper shall be inserted in an early number.

ON INDUCTION COILS.

To the Editor of THE LANCET.

SIR,—I am not aware that any clinical evidence has been adduced to prove the superiority of the unipolar induced apparatus advocated in to-day's LANCET by Mr. Mann. That such should be the case is physically most improbable, not to say impossible, and those who support this view seem to overlook the fact that in therapeutics the conditions are widely different from those met with in physiological research, where undoubtedly the use of unipolar currents is often preferable.

The phenomena of induction are but superficially explained in the usual manuals of medical electricity, and statements often made about them which are totally at variance with Ohm's law. It may then not be found altogether useless for me to give here a brief sketch of the facts involved. By make and break of a current we understand the more or less rapid increase or decrease of the current from O to its full strength S, and decrease from S to O. In other words, when a current is made at a certain point, it is brought to that point from infinity; when broken, removed from that point to infinity; the time occupied in the transfer varying from the shortest to the longest time conceivable.

When a given current is made and broken in presence of a given wire, a definite amount of electro-motive force is generated in the wire. This amount is regulated—first, by the strength of the current (S); secondly, by the length of the wire; thirdly, by the (final) distance between the two, and is independent of the rapidity of the change from O to S and S to O; but it must be remembered that the period of its generation is confined to the period of change, and the rate of its generation to the rate of the change. Let us express this electro-motive force by a number of volts, V. When the change is practically instantaneous—that is, occupies the shortest time possible, T (which we may take as unit),—the current strength is equal to $\frac{V}{R+r}$, where R is the resistance of the coil, and r that of the rest of the circuit; when it is not instantaneous, and occupies a space of time, $x\,T$, our current strength becomes $\frac{V}{(R+r)\,x}$.

Let us apply these facts to the phenomena exhibited in an ordinary medical coil. When the battery current is sent through the primary coil, an induced (make-extra) current is set up in it opposed in direction to the battery current, which is therefore retarded, and only gradually reaches its maximum S. Hence the evolution of electro-motive force, V, in the secondary coil is spread over a time, $x\,T$. When the battery current is broken, V comes into existence in an exceedingly short time, T. The total quantity of electricity conveyed in either case is the same: for $Q = \left(\frac{V}{R+r}\right) T = \left(\frac{V}{(R+r)\,x}\right) x\,T$.

Now, T being exceedingly small, and in medical applications V small (comparatively), and r large, whilst R is negligible, it is clear that the quantity of electricity conveyed by the current is infinitesimally small, and not to be taken into account therapeutically. Hence the whole efficacy of the faradaic current consists in the sudden and repeated considerable changes of potential it sets up in the tissues. In other words, the break current alone is effective; the make current has neither polarising nor electrolytical virtues. We conclude that unipolar induced apparatus have no claim to superiority in therapeutics. Confusion of language leads to confusion of ideas, and confusion of ideas leads to errors in practice. Much mischief is done by the indiscriminate use and abuse of the terms "tension," "intensity," "quantity," and the like in electro-therapeutical writings. They are at best survivals of exploded theories, and should either be used in a definite manner or abandoned. I cannot enter here upon a detailed criticism of them, but, to show how difficult it is not to fall into confusion when using them, will direct attention to the obscurity they cause in the paper before us. It is evident that the "quantity of a coil" is simply its resistance. "Intensity" again is used now for "current strength," and then for "tension," or rather high electro-motive force with high resistance. It is difficult to see how "the quantity of the extra current can be augmented" by the method described by Mr. Mann. What he obtains is simply the sum of the primary and secondary coils; and it is not to be forgotten that in this form of "continuous" apparatus, as the Americans call them, the secondary break current is weakened by the very fact that the extra circuit is closed. For, as everyone can prove to himself with an ordinary sledge apparatus, when the extra current is short circuited, no secondary is perceptible; the extra break current acts then as a make current upon the secondary coil, and thus neutralises the effect of the battery current. The same kind of process explains the weakening effect of the brass tube, which, according to Mr. Mann, *absorbs* the extra current.

I remain, Sir, yours obediently,
A. DE WATTEVILLE,
Electro-therapeutical Assistant to University College Hospital.

Old Cavendish-street, June 30th, 1877.

AN ANTI-VACCINATIONIST.

A RECENT Weekly Return of the Registrar-General notices a remarkable instance of the result of obstinate prejudice against vaccination. It appears that two deaths from small-pox occurred in a house in the Langdale-road, Peckham, on the 24th and 27th June; they were of the son (aged five years) and of the wife (aged thirty-five) of a contractor. The child was unvaccinated, and the father had, it is stated, been frequently summoned, and more than once fined, for neglecting to have it vaccinated. The child died on 24th June, after an attack of small-pox which had lasted eighteen days. The wife of the contractor and mother of the child died on 27th June from "small-pox (five days), miscarriage twins (two days), hæmorrhage, exhaustion." It is further reported that a child, aged one year, in the same family, who had, however, been vaccinated, escaped an attack of small-pox; although a domestic servant, a labourer, and the child of a washerwoman, all in the employ of this contractor who disbelieves in vaccination, are now under treatment in the hospitals of the Metropolitan Asylum. Stronger evidence of the mischief done by the opponents of vaccination it would be impossible to adduce.

Dr. C. T. Brookhouse, (Deptford.)—We would gladly insert any proposal to pay Mr. Batteson's costs that does not reflect on other practitioners.

MEDICAL ETHICS.

To the Editor of THE LANCET.

SIR,—A. and B. are practitioners in a suburban district. A. is sent for to see one of B.'s patients; but hearing that B. is in attendance, and expected again, declines to attend except in consultation with B. The friends of the patient call on B., stating their wishes. B. tells them that he objects to meet A., because he is A.'s senior in practice. A. writes to B., asking if that is his motive. B. replies: "In country practice I consider it both undesirable and unsatisfactory to consult with a practitioner of the same place, and my objection is still stronger in the case where a junior is called in. In the present case I stated my objections in general terms, distinctly disclaiming any personal feeling at all in the matter, and that I preferred meeting a consulting physician of some standing, whose opinion would carry weight." Under these circumstances—

1. Is A. justified in taking the case?
2. What is A. to do in future in a similar case?
3. If one of A.'s patients requests a consultation with B., is A. justified in declining to meet him?
4. Is the course B. has taken usual?

A. has in many cases been called in consultation with his seniors at *their own* request.

I am, Sir, yours obediently,
July, 1877. A.

*** We shall first answer the questions put to us. 1. If B. will not meet A. in the case, and the friends of the patient are anxious for A.'s opinion, A. is quite justified in taking the case if the friends wish him to do so, and courteously intimate their wish to B. 2. In any future case, A., knowing B.'s views, will not need to do more than state them to the friends of patients, and to say that, with no wish to take the case out of B.'s hands, he can only see it as a general practitioner, after a courteous intimation to B. that his services will not be further required in the case. 3. If one of A.'s patients requests a consultation with B., A. will act magnanimously in saying, "By all means; I am quite willing." 4. The course B. has taken is not usual, but it is not very unusual. There is something to be said for B.'s views, though it will be gathered from our answers that we do not agree with him. This is to be said for them, that if a patient expresses a wish to see another general practitioner of the same standing and in the same neighbourhood, it seems to imply a greater confidence in that other practitioner, and that it is desirable that a patient should have for his general adviser the local practitioner in whom he has most confidence. But if this be not the patient's feeling or that of his friends—if he simply has a wish to have the opinion of A. in addition to and in consultation with B.,—then it seems to us the part of kindness and of magnanimity for B. heartily to acquiesce. It is not a question of seniority. It is a question of gratifying the wishes of a patient or his anxious relatives, and of displaying a respectful feeling towards a brother practitioner. The only question is whether A. is an honourable and intelligent member of his profession. This granted, though it is within the right of B. to decline to meet him, it is not conduct which can put the profession in a good light before the public, or which tends to that mutual honour and good feeling which makes medical practice so much easier and more pleasant.—ED. L.

WE have received a report of a special general meeting of the Governors of the Belgrave Hospital for Children, held on the 7th instant, "to receive the report of the Sub-committee of the Victoria and Belgrave Hospitals on the subject of the amalgamation of the two hospitals at Gough House," which we have not space to notice in the present number.

Mr. Thos. Jones.—In a week or two.

THE INCOME TAX.

To the Editor of THE LANCET.

SIR,—Being a country medical man, in practice on my own account for barely a year, and being required to make a return by the income-tax assessor, I should feel obliged if any of your readers would kindly inform me what deductions I am entitled to make under the head of "expenses." As my practice cannot be worked without a horse, can I claim for oats and hay, groom's wages, wear and tear of trap, &c.? Can I claim rent of surgery, it not being detached from my dwelling-house? Can I deduct my union appointment, seeing it is charged for separately? Are there any other deductions that I could claim with any chance (however remote) of their being allowed? An answer in an early number would greatly oblige,

Yours truly,
July, 1877. SCHEDULE E.

PROTECTION TO THE FINGERS FOR OBSTETRICIANS.

WE have occasionally to record painful instances of accoucheurs contracting syphilis from wounds on the finger in the course of their obstetric duties. Mr. Huxley, of Cavendish-street, has sent us a sample of finger-stalls, made of elastic material, fitting the finger closely. They appear to us very useful articles, with a stock of which every accoucheur should be provided. They might be made a little longer and stronger than the sample.

Mr. Beane should apply to the Home Office. All these appointments are in the hands of the Home Secretary.

Caution has been too cautious. He has not enclosed his name. Under these circumstances we cannot answer such questions as he proposes.

Mr. William Pirrie's interesting paper shall be published next week.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

To the Editor of THE LANCET.

SIR,—I trust to your courtesy to permit me to refer to an error in your report of the observations made by me at the annual meeting of the Poor-law Medical Officers' Association, which without correction would be wholly incomprehensible. It is, where at line 13, after my admitting that the Association had done much good in 177 unions, I am credited with stating that the cost of medicines there supplied was £17,000 a year, making a clear gain to the profession of that sum. What I said was as follows:—That in 1865 (the year, by-the-bye, you levied your Workhouse Commission) the total expenditure on medical relief in the metropolis was nominally £27,093 19s.; that I used the word "nominally" as I had discovered that that amount was in excess by £3000, owing to some unions including in their expenditure on medical relief the cost of stimulants supplied to the sick, St. Pancras alone crediting itself with £2000 more than it was entitled to; that such excess amounted to over £3000; that in 1865 the expenditure on medical relief had gone up to £41,585, such sum being exclusive of the salaries paid to medical officers and the cost of drugs used in the asylum hospitals; that, in fact, there had been a clear gain to the profession of some £17,000 a year in the metropolis only, so far as district and workhouse medical officers were concerned. While claiming such alteration to be in the main due to the continuous public work of the Association, it would be unjust were I not to state that such public work would have been futile in results had it not been for your initiative, and the constant support we have received from the medical and general press.

I am, Sir, yours obediently,

Dean-street, Soho, July 9th, 1877. JOSEPH ROGERS.

CHINCHONA AND QUININE.

Quercus.—The alkaloid extracted by Mr. Wood from chinchona grown in India has been tried in that country on a very large scale, and, as might have been anticipated, with very varying results. Surgeon-Major Churns, Principal of the Indian Medical College, reported emphatic testimony in its favour, as also Dr. Bird, of the Howrah Hospital. But the sum of the evidence shows that the drug has not yet been systematically and fairly tried.

Medicus.—Our correspondent might perhaps with advantage note some remarks in the article on "The War" in our present number.

DISCOVERY OF THE CIRCULATION OF THE BLOOD.

To the Editor of THE LANCET.

SIR,—The July number, 1877, of the *New York Popular Science Monthly* contains an article by Geo. Jackson Fisher, M.D., which vividly recalls the learned and beautiful Summary, or "History of the Circulation of the Blood," by P. Flourens, member of the Academy &c. (Paris, 1854), a copy of which I am happy in possessing, and gives evidence of how much that little treatise has impressed subsequent writers upon the same subject.

The author quotes from Mr. Gamgee's articles, entitled "Harvey and Cesalpinus, an Historical Fragment," as they appeared in THE LANCET, in which the claim of Carlo Ruini to the great honour of discovering the circulation of the blood as presented by Prof. Ercolani, of Bologna, is noticed, and is founded upon a "marvellous passage" said to be met with in Ruini's rare work, "Anatomia del Cavallo," published in Bologna in 1598, and in Venice in 1599. As Flourens has well said, "La découverte de la circulation du sang n'appartient pas, et ne pouvait guère appartenir, en effet, à un seul homme, ni même à une seule époque. Il a fallu détruire plusieurs erreurs; a chacune de ces erreurs il a fallu substituer une vérité." Wherefore I beg leave to call attention to an other claimant, also interested in the "Cavallo," Francisco de la Reyna, a Spanish farrier, to whose remarkable words I gave prominence in my paper on the Microscopy of the Blood, read before the Section of Biology of the International Medical Congress in Philadelphia, September, 1876. I reproduce the text: "Don Fr. Benito Geronymo Feyjoo, a very eminent and learned man, who did more for the intellectual life of his country," observes Ticknor, "than had been done for a century," in the third edition of his "Cartas Eruditas," published in Madrid in 1774, makes the following mention of him. In the 28th Carta he says: "The literary phenomenon which you bring to my notice is rare, and curious as rare. Is it possible that a Spanish farrier can have been the first discoverer of the circulation of the blood? You write me that a friend of yours has a book of Farriery by the farrier Francisco de la Reyna, printed in the house of Felipe de la Junta in the year 1504, and that he saw the fellow to it in the Royal Library, probably the only copies in Spain. You send me the transcript of a passage in Chapter 94 of said volume, so clear, so decisive as to the circulation of the blood, that it establishes the fact that the aforesaid Reyna was acquainted with it. The little sentence banishes all doubt: '*So that the blood goes round, and circulates throughout all the members.*' (De manera, que la sangre anda en torno, y en rueda por todos los miembros.) Or, as Feyjoo, on page 318, quotes [1] our farrier, who first before Harvey uses the word *circulation*, and who left it distinctly written that the blood goes round and circulates through all the members.' (La sangre anda en torno, y rueda por todos los miembros.)"

Yours respectfully,

Baltimore, U.S.A., June 24th, 1877. CHRISTOPHER JOHNSTON, M.D.

[1] If the first, not the only one: "Huic sanguinis *circulationi* ex dextro cordis ventriculo per pulmones," &c. Andreas Cesalpini, Quæstionum peripateticum, lib. v., p. 135. Ed. of the Junti, Venice, 1593.

WEEKLY ADVERTISEMENT OF NAMES OF HONORARY MEDICAL OFFICERS OF HOSPITALS.

OUR attention has been directed to an advertisement in the Liverpool papers of the names of the honorary surgeons of the Eye and Ear Infirmaries, and our opinion asked as to the etiquette of the practice. It is done probably inadvertently, and without consultation with the honorary medical officers. At the same time, as it savours of advertising, we should approve of its discontinuance.

THE INDIAN MEDICAL SERVICE.

To the Editor of THE LANCET.

"Allusion has been made to the system of three years' service in India. That was rendered necessary by the exigencies of climate, and the Indian Government would not take anyone for an administrative department who had not served three years there. If an officer had not complied with this rule, he had brought this bar upon himself, and was sent out to fill up the number of months or years to make up his term. It was, no doubt a War Office rule, but it was rendered necessary by the rule of the Indian Government."

SIR,—So spake Mr. Hardy, if *The Times* report be correct, before the House of Commons on Monday, the 2nd inst. Mr. Hardy also alluded to the acts "worthy of a great profession." I wonder if statements such as these are worthy of a State Minister!

How the "exigencies of climate" render three years' service in India necessary for promotion there or elsewhere, Mr. Hardy does not explain. What Mr. Hardy means by the "Indian Government would not take anyone for an administrative department," Mr. Hardy must also explain, because, as far as I know, there is no special administrative department in India or at home; and if he means "anyone for an administrative position in India who has not complied with the Indian rule," Mr. Hardy has been misinformed from 6, Whitehall-yard, because Sir Wm. Muir and several others have administered in India without compliance with this rule, and there are administrative officers *there now* who have failed in this respect. It would have been only fair for Mr. Hardy to have made himself acquainted with facts before he stated before the world, "that if an officer had not complied with this rule, *he had brought the bar upon himself*." Mr. Hardy knows that no officer "could bring the bar upon himself" who, after thirty years' service, had never heard of such a "bar to promotion," and, even if he had, he could not have ordered himself to India. Mr. Hardy knows that no such rule as "three years' Indian service being a *sine qua non* for promotion" has ever been officially or non-officially promulgated, and that the senior officers only heard of the illegal exercise of an unpublished rule when it was impossible for them "to be sent out to fill up" the term, because they would have been superannuated by the fifty-five years' clause before the three years in India could have been completed. Mr. Hardy says the rule is "no doubt a War Office one," but he does not mention the number of the clause or circular in which it has been issued by "War Office" authority. What are the conditions of this War Office rule? Are they identical with the Indian rules. If so, the War Office rule has been violated since it was made; in short, Mr. Hardy knows, or ought to know, that the department has not been informed to this day what the rule is! Is it "worthy of a great" statesman, may I ask, to make public assertions which he has not been to the trouble to verify?

Perhaps the surgeon-major who frightens all the London students knows more than Mr. Hardy has explained.

I am, Sir, yours &c.,

July, 1877. FIDES.

"EXTRAORDINARY ADVERTISEMENT."

"MR. JAMES HOGG, having resigned his appointment as Surgeon to the Westminster Ophthalmic Hospital, may be consulted daily, from nine till one, at No. 1, Bedford-square, until his arrangements are completed for a Self-supporting Eye Hospital."

It is always with pain that we find occasion to call attention to a breach of professional etiquette and propriety, more particularly when the interests of the profession demand that we pass censure, in no equivocal manner, on one who has held an important position, and has attained by perseverence to no small prominence. As different explanations have been rumoured concerning the somewhat abrupt resignation of Mr. Hogg, it is but fair for us to state that it occurred in obedience to a law of the hospital, which fixes the age at which the surgeons must retire. The appearance of this "advertisement" will, of course, bar the claim to election as "consulting surgeon."

MEDICAL WOMEN.

To the Editor of THE LANCET.

SIR,—MR. R. N. FOWLER'S sensible letter in your last issue is most valuable as coming from one entirely disinterested and independent. Is it too late or impossible for the bulk of the profession to have the courage to be unanimous, and for once stand shoulder to shoulder, not to prevent (time for that is past), but to diminish the serious evil of medical women by ignoring them professionally, as has been generally done with homœopathic persons, and by steadily refusing to recommend or consult with these, however eminent, who are now engaged in educating these women?

Yours obediently,

July 2nd, 1877. H.

CHRISTIAN CHARITY.

LAST week's issue of a periodical mainly devoted to the suppression of vivisection contains the following paragraph:—

"THE ROYAL COLLEGE OF SURGEONS.—The election of three members of Council by the Fellows of the College took place on Thursday. The editor of the *Home Chronicler*, who is a Fellow (by examination) appended the following memorandum to his voting paper:—'I regret that I feel myself bound to withhold my vote from Mr. Erichsen. I will not support a candidate for the Council of the Royal College of Surgeons who is identified, as Mr. Erichsen is, with the practice of vivisection.'"

We trust that the Council of the College adopt the rule which obtains at Parliamentary elections of cancelling all ballot-papers which have any superfluous marks or writing upon them. To append such a remark to a ballot-paper was a flagrant breach of good manners.

Q., (Dublin.)—The movements of the brain, as described by Drs. Giacomini and Mosso, are as follow:—1. Pulsations produced at each contraction of the heart. 2. Oscillations corresponding to the movements associated with respiration. 3. Undulations—larger curves of motion—caused by movements of the vessels during efforts of attention, or cerebral activity in sleep. The observations were made by the graphic method with one of Marey's instruments upon a woman who had lost a considerable portion of the frontal and parietal bones from the effects of syphilis.

Mr. T. L. Montgomery.—The name had better be inserted along with the names of the other gentlemen who obtained the diploma.

ANOTHER PESSARY.

To the Editor of THE LANCET.

SIR,—Having been much troubled to get an instrument for severe cases of prolapsus uteri which would enable the patient to lift heavy weights and do hard work without pain, I made a pessary, which is sustained in its place by four tapes passing from it to a band round the waist, the pessary itself being an inflating pear-shaped india-rubber one, the portion which joins the tube and two inches and a half of the inflating tube itself being strengthened by a firm rubber or gutta-percha layer. Its advantages are—1st, the uterus rests on a non-irritating air-cushion; 2ndly, it can be made to collapse for easy introduction, and inflated when *in situ*; 3rdly, no matter what movement the patient makes, nor how sudden, she does not hurt herself, whereas patients complain to me that the ordinary porcelain &c. pessaries hurt very often if they sit down quickly or move about much; 4thly, however much the patient may strain, the pessary cannot escape.

The instrument can be obtained of Messrs. Arnold and Sons, London, who manufactured it for me.

The unmistakable expressions of approval from some of my poorer patients lead me to trespass so much on your valuable space.

Yours faithfully,

Manchester, July 9th, 1877. ARTHUR RICHARDSON, M.R.C.S., &c.

CASE OF SUBSPINOUS DISLOCATION OF THE SHOULDER-JOINT.

To the Editor of THE LANCET.

SIR,—The following case, the notes of which I forward, is, I think, worth recording, as it is a rare variety.

A cabdriver, aged seventy-six, was seated on his box, when his horse took fright, and he was thrown forwards, striking the ground with the front of the left shoulder. When seen immediately after the accident, there was a most distinct rounded swelling over the scapula, just below the spine, and at the point where this joins the acromion, while there was a deep depression beneath the acromion. The arm was carried forwards and away from the side, while the forearm was semiflexed and pronated. Reduction was most easily effected by bringing the arm to a right angle with the body, and gently drawing upon it, while the scapula was fixed by a jack-towel, the head sliding gradually into its place. The arm was kept at rest for twelve days by means of a four-tailed bandage over the elbow, and then passive motion was employed.—I remain, Sir, yours &c.,

J. F. NICHOLSON, House-Surgeon.

St. Thomas's Hospital, July 7th, 1877.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Fenwick, London; Dr. M. Mackenzie, London; Dr. Rogers, London; Dr. Grigg, London; Dr. Tate, Nottingham; Dr. Johnston, Baltimore; Mr. Gentle, Belize, Honduras; Messrs. Young and Postans, London; Mr. Ilderton, Fairfield; Dr. Canniff, Toronto; Dr. Bulkeley, New York; Mr. Caffyn, Hornsey; Mr. Bennett, London; Dr. Mahomed, London; Dr. Carpenter, London; Mr. Luck, London; Mr. Wadbourne, Grenada; Mr. Bradley, Manchester; Dr. Boon, St. Kitts, West Indies; Dr. Sweeting, Clapham; Dr. Stoutz, Nyon; Dr. Cory, London; Mr. Evans, Liverpool; Dr. Cobbold, London; Mr. Collingridge, London; Mr. Nicholson, London; Mr. Lucas, Bushire, India; Dr. Kebbell, Brighton; Mr. Johnstone, Creetown; Dr. Preston, Queenstown; Dr. Mason, New York; Mr. Montgomery, Blackburn; Mr. Ingelow, Kensington; Mr. Moore, Ongar; Dr. Davies, Llanybyther; Dr. Clippingdale, London; Dr. Boerner, Berlin; Mr. Sealy, Castleton; Mr. Griffith, Kensington; Mr. E. C. Jackson; Dr. Brookhouse, Deptford; Mr. Vines; Mr. Drew; Mr. M'Donald; Mr. Richardson, Manchester; Mr. Gent, Brill; Dr. Jones, Manchester; Dr. Benthall, Twickenham; Dr. Church, Edinburgh; Mr. Clark; Dr. Cawthra, Bradford; Mr. Williams; Mr. Keene; Mr. Dalby; Dr. Barham, Maidstone; Dr. Bennett, Durham; Mr. Corner; Mr. Friend, Worcester; Mr. Moore, Ware; Dr. Davies, Maesteg; Mr. Kamplin; Mr. Gibson; Mr. O'Leary, Belfast; Dr. Bacon, Fulbourne; Dr. O'Connor, Charleville; Dr. Thomas, Cwrnamman; Mr. Ley, Manchester; Mr. Robertson; Mr. J. Edwards, Epsom; Mr. Copeman, Dorchester; The Registrar-General of Edinburgh; J. R. H.; Durham; A.; G. P.; Schedule E; L. B.; Fides; X. M. D.; T. C. A.; Sanitas; The Registrar-General of Births and Deaths; F. G. H.; Xema; M. C., Brampton; X. Y. Z.; Medicus, Stafford; Y. Z.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from — Mr. Greenwood, Liverpool; Dr. Deighton, Clapham, Yorks; Mr. Hunter, Aberdeen; Mr. Goddard, Leicester; Mr. Waterhouse, Bradford; Dr. Jones, Denbigh; Dr. Great Rex, Lawton; Dr. Liveing, London; Mr. White, Kensington; Mr. Batteson, Bow; Messrs. Swinhoe and Howse, Swindon; Mr. Symons, Stratton; Mr. Jennings, Coleford; Mr. Bonthron, London; Mr. Ward; Messrs. Richards and Co., London; Dr. Gowan, Rotherham; Mr. Crosby, Whitby; Dr. Craig, Bedford; Mr. Youd; Dr. Drew; Mr. Banks, Wakefield; Mr. Johnson; Mr. Gregory; Dr. Jones, Llangrannog; Mr. Gray, Exeter; Dr. Reed; Mr. Latham; B. C. L.; M.A., Sheffield; Medicatis; F. C.; Alpha, Paddington; F. R., Salisbury; Theta, Wendover; M. D.; T. P. J., Pontypridd; B., Sudbury; A. B., Buralem; Locum Tenens; K. R.; O. P. Q.; Sibis; Juno; A. B. C.; Medicus, Redcar; 456.

Sheffield and Rotherham Independent, Analyst, American Register, Hornet, Australasian, and *Financial Opinion* have been received.

METEOROLOGICAL READINGS

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, JULY 12TH, 1877.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
July 6	29·88	N.W.	53	59	105	68	49	0·18	Cloudy
,, 7	30·11	N.W.	53	58	108	69	47	0·28	Cloudy
,, 8	30·13	N.W.	54	60	89	63	46	0·18	Cloudy
,, 9	30·32	W.	55	60	103	71	50	0·04	Cloudy
,, 10	30·24	W.	59	65	112	80	55	...	Fine
,, 11	30·07	W.	59	64	105	75	55	...	Cloudy
,, 12	30·03	E.	56	63	...	...	56	...	Overcast

Medical Diary for the ensuing Week.

Monday, July 16.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 3 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

Tuesday, July 17.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, July 18.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

Thursday, July 19.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, July 20.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, July 21.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

NOTICE.

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